Response to Pre-Bid Queries

NAME OF PROJECT : DESIGN, ENGINEERING, CONSTRUCTION AND COMMISSIONING OF WASTEWATER TREATMENT PLANTS WITH TERTIARY TREATMENT FACILITY, SOLAR PANELS ALONG WITH OPERATION & MAINTENANCE THEREOF FOR TEN YEARS [WORKS - A] AND PROCUREMENT AND CONSTRUCTION OF RISING MAIN, MAIN SEWERS AND LATERALS INCLUDING MACHINE HOLES AND LIFT SEWAGE PUMPING STATIONS [WORKS – B] HYBRID MODE FOR MAHADEVAPURA ZONE IN 110 VILLAGE AREAS (Phase II) UNDER KARNATAKA WATER SECURITY AND DISASTER RESILIENCE PROGRAM (KWSDRP) – (Contract Package No. BWSSB CE-P/KWSDRP/WBS-V)

Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
1	Volume 1 / A. GENERAL	Earnest Money Deposit (EMD) - The Tenderer shall furnish, as part of his tender, earnest money deposit in the amount as shown in column 5 of the Table of IFT for this particular work. This earnest money deposit shall be in favour of Chairman, BWSSB through KPPP, payable at BANGALORE from any Nationalised / Scheduled Indian banks	We request you to please allow EMD in the form of Bank Guarantee instead of Online payment.Kindly Confirm	Tender Conditions Prevails.
2	Volume 2 / Section 7 Part - 1	A RCC Precast compound wall shall be constructed for a length of not less than 100 m.	We kindly request to provide the typical drawing of compound wall for estimation purpose.	The requirement shall be as mentioned in the tender document.
3	Volume 2 / Section 7 Part - 11	All roads shall be designed and constructed as per the specifications and as per site requirements. Bidder shall provide minimum 3.5 m wide internal roads with 1.50m shoulder on one side, which shall be utilised for future expansion of the internal road and 5.0 m wide approach road shall be provided until WwTP Entry gate from the nearby Main Road or Highway. 1.5 m shoulder on both sides of the road shall be provided as per site requirement and as directed.	Request you to provide the section of road.	Please refer cl 1.23, volume 2, section 7 of part 11 and chapter 5 of part 10.
4	Volume 2 / Section 7 Part - 10	Earthwork for high embankment : In the case of high embankments, the Contractor shall normally use the material from the specified borrow area. In case he desires to use different material for his own convenience, he shall have to carry out necessary soil investigations and redesign the high embankment at his own cost. The Contractor shall then furnish the soil test data and design of high embankment for approval of the Engineer, who reserve the right to accept or reject it.	Request to provide the soil investigation report of proposed site to decide the foundation depth of civil structures for estimation purpose.	For Channasandra WwTP, Pile foundations is required for all major structures. For minor structures, soil stabilisation using geotextile for the top 1-1.5m may be considered as 6-7 T/sqm minimum. For piling minimum 450mm dia pile diameter for a minimum 15m length and 60-75 Ton Axial capacity may be considered. Minimum requirements at the site are mentioned in Cl 1.6 of part 1 in volume 2, section 7. However, the tenderers are requested to make their individual site visit and bid as per the actual site requirements. Also please refer to cl 1.14 & 1.15 of part 11, volume 2 section 7, Maximum safe bearing capacity and pile capacity of soil strata shall be taken as determined by the Bidder through his own independent investigations. However Tenderer is responsible for the details considered in his design and estimation for Tendering purpose. No claim in this regard will be considered during execution phase.
5	Volume 2 / Section 7 Part - 1	All preparatory work including clearing, levelling of site, site grading, formation of Finished Ground Level (FGL), construction of internal roads, all around compound wall etc., excavation, dewatering as required and disposal of all surplus earth to a suitable location as specified/directed by Engineer	Request to specify the distance of disposal of surplus excavated material/unserviceable material from proposed plot site.	Tenderers are requested to visit the sites individually and quote accordingly.
6	General	Site clearance work	We request that all site clearance work including removal of debris, existing strcuture (if any) , any etxra excavation and dewatering work shall be considered as a separate item and paid additonally as this scope is typically variable and not clearly quantititable at tender stage.	There is no existing structure for demolishing. However, As per the DBO contract all the works as defined in Part 1 of the tender document shall be carried-out as per the contract.
7	Volume 2 / Section 7 Part - 5	TSPS Bar screen & Coarse Screen & WWTP fine screen Unit	We kindly request you to allow bidder to use Screen Unit MOC SS304 instead of SS316L	Tender Conditions Prevails.
8	Volume 2 / Section 7 Part - 5	Grit Mechanism	We kindly request you to allow bidder to use Detritus type Grit Mechanism instead of vortex grit mechainsm.	Tender Conditions Prevails.
9	Volume 2 / Section 7 Part - 5	Grit Mechanism	We kindly request you to allow bidder to use Screen Unit MOC SS304 instead of SS316L	Tender Conditions Prevails.
10	Volume 2 / Section 7 Part - 8	8.9.14 Screw Conveyor with compactorTechnical specifications of Screening Conveyor	We kindly request you to allow bidder to use Belt Conveyor instead of screw conveyor for conveying the floating debris.	Tender Conditions Prevails.
11	Volume 2 / Section 7 Part - 8	7. Odour Control system with Odour enclosure for the complete system connected to COMPACT Pre-Treatment System (COMBI Unit)A. Dual Stage Odour Control System	We understand that bidder to provide odour control system for pretreatment system only of WWTP please confirm.	Yes, confirmed. Odour Control system shall be adopted in Combi unit Pre-treatment system only. Tender condition Prevails.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
12	Volume 2 / Section 7 Part - 8	8.18.3 Air Header and Drop legs(a) Header and drop legs shall be constructed of 316 stainless steel.	We kindly request you to allow bidder to use Air header MOC - MS epoxy coated instead of SS316 & Drop legs MOC - SS304 instead of SS316	Tender condition Prevails.
13	Volume 2 / Section 7 Part - 8	8.23 Conveyor System(a) For the disposal of sludge a common motor driven endless belt conveyor shall be provided.The conveyor shall be designed in accordance with IS 11592 or equivalent. The conveyor andchutes shall be suitable for handling occasional heavy objects which will cause shock loads.	We understand that the bidder is required to provide a belt conveyor for sludge disposal at the outlet of the sludge dewatering unit. However, as per standard practice, sludge is typically collected directly in a sludge collection trolley placed on the ground below the dewatering unit outlet. soin that case there is no need of a belt conveyor for sludge disposal, kindly confirm the same	Tender condition Prevails.
14	Volume 2 / Section 7 Part - 8	8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment	We kindly request you to allow following make for mechanical equipments1. Submersible Pump - Aqua Pump2. Submersible Mixer - Jash Invent	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
15	General	Process Air Blower for all treatment Process	We kindly request you to allow bidder to use Energy efficient super Helical Hybrid Blowers as it is Positive Displacement Blower has cutting edge technology, next generation, innovative design, unmatched performance, supply as Integrated package that comprises of High Efficient Helical Blowers, high efficiency IE3 Electric motors of reputed makes – ABB/Siemens/CGL/BBL makes. Complete package has designed to sustain with Indian environment conditions , for long service life around 25 years, subject to preventing maintenance, so complete package unit is reliable, efficient & proven over long span for low operation cost & life cycle cost.	Not Acceptable. Tender Conditions Prevails.
16	Volume 2 Section 7/15.20.1	HRT of SBR basin average flow = 24 Hrs	The HRT of SBR basin shall be as per design of technology provider or as aper the range mentioned in CPHEEO for SBR.Please confirm	Tender condition Prevails.
17	Volume 2 Section 7/15.20.1	CCT,CCT effluent channel,CCT outfall structure, disinfection system are asked to Design for 100% Peak Flows including recycle flows - Irrespective process	Design of all these units shall be for decant flow for SBR.Please confirm	Tender condition Prevails.
18	Clause 3.1.2 (b) (ii)	Provide evidence that it has successfully completed, including Design, Procurement, Supply, Installation, Construction, Testing, and Commissioning of all Civil, Mechanical, Electrical, and Instrumentation Works of minimum One (1) No. and above reuse plant of 8 MLD or Two (2) Nos. of reuse plant (with Tertiary Treatment) of minimum 4 MLD capacity and should be in operation for a period of one year during the last 5 years as on date of Bid submission	Bidder shall enter into an MoU with a proven technology provider cum manufacturer of IFAS/ SBR in combination Disc Filter for tertiary treatment (Reuse)application. Such technology provider should also have experience in design and installation of UV disinfection in reuse application.	Tender Conditions Prevails.
19	Clause 3.1.2 (b) (ii)	Parameter / Unit / Specified maximum Concentration TP / Mg/l / <10 Fecal coliform / MPN/100ml / Nil	Parameter / Unit / Specified maximum Concentration TP / Mg/l / <2.0 Fecal coliform / MPN/100ml / <=1000	Tender Conditions Prevails. Refer Addendum-1
20	Clause 2.2.4	Partner Limitation: The number of partners in a JV is Lead + One (1) (Partner)	The number of partners in a JV is requested to be one Lead + Two (2) Partners	Not Acceptable. Tender Conditions Prevails.
21	LAST DATE AND TIME FOR RECEIPT OF TENDERS:	27.05.2025 up to 16.00 Hours	Please extend the bid submission due date further for a period of one month i.e., till 26.06.2025	Tender Conditions Prevails.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
22	Vol II, 5.19.1 for Works-A	pH - 6.5-7.5 BOD- 350 mg/l COD-800 mg/l TSS-450 mg/l VSS-360 mg/l TKN-70 mg/l NH4-N- 45 mg/l Total Phosphorous- 7 mg/l	The influent parameters which are mentioned are not as per CPHEEO. Pl confirm the values that to be considered for design for indvidual STP.	The design influent parameters requirement shall be as defined Part 5, Cl.no. 5.20.1, "TSPS & WwTPs Design / Sizing Criteria".
23	Vol II, 1.3 Components List for Works-A,		Is the provision of a Disc Cloth Filter, Ultrafiltration (UF) system, and Odour Control Unit mandatory for every individual STP?	Tender Conditions Prevails. The requirement of a Disc Filter, Ultrafiltration (UF) system, and Odour Control Unit for respective WwTPs shall be as defined in the tender document.
24	Vol II, 1.3 Components List for Works-A,	EA Process, or IFAS Process, or MBBR Process, or SBR Process, incorporating biological nitrification, denitrification, and phosphorus removal. All these process options shall be followed by Disc filters, Chlorine Disinfection and Mechanical Sludge Dewatering. As defined	UF system is not mentioned here. Pls confirm the scope of UF.	Yes confirmed UF Treatment system is already mentioned in this Tender package. Tender Conditions Prevails.
25	Vol II, 5.14.6 Tanker Filling Station	Contractor shall provide the facilities for tanker filling by installing dedicated "treated water transfer pumps" as specified in Paragraph 5.19.	Is Tanker Filling Station required at every STP?	Tender Conditions Prevails. Tanker filling station is required for each WwTP.
26	Vol II, 5.14.6 Tanker Filling Station	Further the WwTP locations (refer Paragraph 5.19.) where the reuse facilities are not specified, then a dedicated ultrafiltration unit with disinfection facilities shall be installed for the tanker filling station of the WwTP (Capacity shall be same as treated water transfer pumps) to ensure the treated water meets all the time stringent re-use standards and nondetectable fecal coliform levels before` being loaded into the tankers. For capacity of treated water transfer pumps refer Paragraph 5.19.	We presume that UF treated water would be used in Filling Stations.	Tender Conditions Prevails. The requirement shall be as defined in the Tender document.
27	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 10 for Works-A		Kindly allow Sub Surface Submersible mixers make Euroteck for Anaerobic & Anoxic tanks for easy Operation & Maintenance. Please Confirm for Individual STP	Not Acceptable, Tender Conditions Prevails.
28	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 12 for Works-A		Kindly include Euroteck/EKOTON make for the Vortex Grit Removal in the approved make list. Please Confirm for Individual STP.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
29	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 22 for Works-A		Kindly include EKOTON make for the Fine Bubble (LDPE) Diffusers in the approved make list. Please Confirm for indvidual STP.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
30	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 24 for Works-A		Kindly include Euroteck/EKOTON make for the Mechanical screens (bar type) in the approved make list. Please confirm for individual STP.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
31	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 26 for Works-A		Kindly include Euroteck/EKOTON make for the Mechanical screens (bar type) in the approved make list. Please confirm for individual STP.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
32	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 40 for Works-A		Kindly include Euroteck/MITA make for the Disc Filters in the approved make list. Please Confirm for individual STP.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
33	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 5 for Works-A		Kindly include Screw Press/ Belt Filter Press for Dewatering of sludge Euroteck/Ekoton Make which consumes less power. Please Confirm for Individual STP	Not Acceptable, Tender Conditions Prevails.
34	General		Kindly include Sub Surface Aerators in Aeration Zone. Aerators are much more energy efficient and Operation & Maintenance is easy compared to Diffused Aeration. Please Confirm. Further we request to add AIRE-O2 make for the Sub Surface Aerators in the approved make under Approved make list Sub Surface Aerator as an additional item	Tubular type Air Diffuser system is only allowed, other type of Diffuser for Aeration zone is Not Acceptable, Tender Conditions Prevails.
35	General		Kindly include Integrity Municipal Systems (IMS)- I-BOx® Make for Odor control Unit. Please confirm for individual STP.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
36	General		Request you to include helical hybrid blowers which are energy efficient and high speed blower very well suited in the aeration	Not Acceptable. Tender Conditions Prevails.
37	Vol -4, TN-KWSDRP-WBS5-CV-3014	Topographical Survey Layout for Proposed WwTP 20MLD Channasandra Bangalore	Request you to provide the Corner cordinates along with the length of the boundary of the Proposed WwTP 20MLD plot.	Refer volume 4, topographical survey layout of proposed plants are provided with tentative data for bidding. Please also refer cl 1.5 scope of works for works-A, during execution stage.
38	Vol 2 - Sec -7 of Vol 1, 1.4 Components List for Works-B		Request you to provide the Longitudinal section along with Alignment Drawings & Cross section with All levels for Sewer lines,Pumping main.	Tender Conditions Prevails. Post award of Contract, on completion of confirmatory Topographical survey by the selected Tenderer , Sewer line related design will be completed by the PMC and all mentioned drawings soft copy will be issued.
39	Vol 2 - Sec -7 of Vol 1 & Vol 4, 1.6&- Additional Scope Details for Civil Works under Works – A& TN-KWSDRP-WBS5-CV-3014	1. Channasandra 20 MLD WwTP with TSPS: 6.The site shall be filled up to the FGL (approximately 6 to 7 m) with approved soil. Pile foundations shall be adopted for the foundations of the Major structures & Topographical Survey Layout for Proposed Wept 20MLD Channasandra Bangalore	Request you to provide the bed level of the lake/ pond for the proposed WWTP plot area for considering the filling depth	Minimum requirements at the site are mentioned in Cl 1.6 of part1 in volume 2, section 7. Also refer volume 4, topographical survey layout of proposed plants are provided with tentative data for bidding. The tenderers are requested to make individual site visits for any other additional details and quote accordingly.
40	Vol 2 - Sec -7 of Vol 1 , 1.6 &1.6& 1.22, Additional Scope Details for Civil Works under Works – A &Additional Scope Details for Civil Works under Works – A&	3. The FGL shall be at least 0.75m above the HFL for all sites & 9.FGL+857.750m 10.HFL +857.000 & 45.The difference between HFL and FGL shall be 1.0m.	Both the clauses are contradicting, The FGL shall be 0.75m above the HFL Please confirm	The FGL shall be 0.75m above the HFL.
41	Vol 2 - Sec -7 of Vol 1, 1.6, Additional Scope Details for Civil Works under Works – A	1. Channasandra 20 MLD WwTP with TSPS: 3. The Nala flowing along the boundary of the site shall be diverted by constructing one side Gabion wall on the plant side. The length of Gabion wall with chain link fencing shall be not less than 500m.	Please provide the detailed drawing by indicating Nalla flow direction, width, depth of Nalla , bed level etc.,	Please refer volume 4, topographical survey layout of proposed plants are provided with tentative data for bidding.

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42	Vol 2 - Sec -7 of Vol 1, 1.7, Scope of Work for Works – B	The Scope of Work under this contract includes but is not limited to the following in relation to Works- B:	We presume that, the Works-B will come under item rate, hence no survey, design is envisaged in the scope of bidder. Please confirm.	Tender Conditions Prevails. Post award of Contract, on completion of confirmatory Topographical survey by the selected Tenderer , Sewer line related design will be completed by the PMC and all mentioned drawings soft copy will be issued.
43	Vol 2 - Sec -7 of Vol 1, 1.7, 1.7 Scope of Work for Works – B	The sewer line will be laid through urban areas, wherein frequent bends, conflict with other utilities might encountered along the right of way. A right of way to lay the sewer line shall be obtained in places, where the service road or land is not readily available.	We presume, the right of way to lay the sewer is not in the scope of bidder. Please confirm	Tender Conditions Prevails.
44	Vol 2 - Sec -7 of Vol 1, 1.7, Scope of Work for Works – B		Being an item rate tender, bidder presumes that all soil investigation works which are required for the structural design part and release of construction drawings is not in the scope of bidder. Please confirm our understanding is correct	Tender Conditions Prevails.
45	Vol 2 - Sec -7 of Vol 1, 1.7, Scope of Work for Works – B	Any crossing of the gravity sewer lines & pumping mains across National Highway, State Highway, Heavy traffic roads, and Railways shall be carried out with trenchless technology and with prior approval from the concerned authority in accordance with all applicable laws, regulations, and standards complete.	Kindly provide the details of major road /railway crossings using trenchless method	Tender Conditions Prevails. Post award of Contract, Upon completion of confirmatory Topographical, underground Utility Survey with reconfirmation of the sewer line alignment, the trenchless locations shall be finalised.
46	Vol 2 - Sec -7 of Vol 1 , 15.20.1&1.16, TSPS & WwTPs Design/Sizing Criteria&Design Requirements	ELECTRICAL SUB-STATION BUILDINGADMIN BUILDING F17INCLUDES PLC SCADA,LABORATORYMOC of Structure- RCC Framed Structure - M30&All liquid retaining reinforced concrete structures, concrete shall be of a minimum M30 grade and buildings, shall be of a minimum M25 grade (Footings, Plinth Beams, Columns, Slab andbeams,	Both the clauses are contradicting, we presume minimum grade of concrete for Building shall be M25 as per Part 11-11 , cl.no.1.16 of Vol 2 - Sec -7 of Vol 1 - PARTICULAR TECHNICAL SPECIFICATIONS FOR CIVIL, STRUCTURAL ANDPUMPING MAIN/SEWER NETWORKPlease confirm.	please refer Cl 1.16 of part 11, volume 2 section7. All liquid retaining reinforced concrete structures, concrete shall be of a minimum M30 grade and buildings, shall be of a minimum M25.
47	Vol 2 - Sec -7 of Vol 1 & Vol 4, 1.6 & -General- Additional Scope Details for Civil Works under Works – A	4. The Gabion wall with chain-link fencing shall also be constructed for a length of not less than 500 m all-round the site. & Topographical Survey Layout for Proposed WwTP 20MLD Channasandra Bangalore	Based on the tender layout TN-KWSDRP-WBS5-CV-3014 of Vol 4 the length of gabion wall is more than 500m . Hence, request you to provide the actual length of the Gabion wall with Chain link fencing for the proposed 20MLD WwTP as all the bidder will be considering at uniform length.	Minimum requirements at the site are mentioned in Cl 1.6 of part 1 in volume 2, section 7. However, the tenderers are requested to make individual site visit and bid as per the actual site requirements.
48	Vol 2 - Sec -7 of Vol 1 , 5.12, Design Requirements	All channels carrying process liquid shall be fully covered with solid non-skid GRP cover plates (not grating) designed for human traffic live loads at a minimum and heavy vehicle live load wherever the channel crosses traffic paths.	,Vol 4 the length of gabion wall is more than 500m . Hence, request you to provide the actual length of the Gabion wall with Chain link fencing for the proposed 20MLD WwTP as all the bidder will be considering at uniform length	Minimum requirements at the site are mentioned in Cl 1.6 of part 1 in volume 2, section 7. However, the tenderers are requested to make individual site visit and bid as per the actual site requirements.
49	Vol 2 - Sec -7 of Vol 1 , 5.12 & 1.22, Design Requirements & Buildings and Structures	All concrete structures in contact with sewage and/or sludge shall be provided with full interior corrosion protection linings and/or coatings; this shall applies to all concrete structures in contact with any type of sewage and/or sludge anywhere in the plant including but not limited to complete works of TSPS, Inlet works, Anaerobic zone, Anoxic zone, Aerobic zone, Clarifiers, Sludge storage tanks, Channels etc., & 44.All concrete structures in contact with sewage and/or sludge shall be provided with full interior corrosion protection linings and/or coatings of appropriate material and thickness to be approved by the Employer. For Aeration Basins, interior lining shall extend from the top of the wall down to 1.0 meter below the lowest operating water level.	We shall follow the Interior Corrosion linings for all concrete Structures in contact with sewage / sludge based on- PARTICULAR TECHNICAL SPECIFICATIONS FOR CIVIL, STRUCTURAL AND PUMPING MAIN/SEWER NETWORK , Part 11-22 clause 1.22, Pg 772/1275 Buildings and structure.	The extent of Interior Corrosion linings for all concrete Structures in contact with sewage / sludge shall be as defined in Part 5, Volume 2/Section 7 of the tender document. However, the specification of the Corrosion linings material shall be as specified in the Part 11 of the tender document.

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50	Vol 2 - Sec -7 of Vol 1 , 5.12, Design Requirements	• Complete chlorine contact tank including its free board and its inlet & outlet channel shall be provided with White/Sky Blue porcelain - like finish free from any pits or recesses to avoid accumulation of bacteria and dirt, else which might hinder to achieve desired outlet fecal coliform. • Complete disc filtration tank including its free board and its inlet & outlet channel shall be provided with White/Sky Blue porcelain - like finish free from any pits or recesses to avoid accumulation of bacteria and dirt, else which might hinder to achieve desired outlet fecal coliform.	Please elaborate the specific White/Sky Blue porcelain requirement like thickness etc.,.	White/Sky Blue porcelain tiles shall be laid in vitrified floor tiles with thickness 9-10 mm in different sizes with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/m2 including grouting the joints with white cement and matching pigments etc., complete
51	Vol 2 - Sec -7 of Vol 1 , 5.11, Design of Plant Layout	• Contractor shall provide bird eye view of entire plant by constructing viewing area above admin building. Further, contractor shall ensure that elevator of admin building shall terminate at bird eye view area.	Kindly elaborate the requirement & specification for viewing area like, surface area, type of cover ..etc	The requirement shall be as defined in the tender document. Accordingly the Contractor shall provide bird eye view of entire plant by constructing viewing area above admin building. Further, contractor shall ensure that elevator of admin building shall terminate at bird eye view area.
52	Vol 2 - Sec -7 of Vol 1, 5.13, Hydraulic Design Requirement	Topographical survey information, benchmarks, contour maps, and effluent receiving water body high flood level (HFL) elevations for TSPS and WwTP sites are included with these Bidding Documents and/or available from the Employer on request.	Kindly provide the Topographical survey, Borehole details & Geotechnical / soil investigations and all other doucments as mentioned in the tender document.	Minimum requirements at the site are mentioned in Cl 1.6 of part 1 in volume 2, section 7. However, the tenderers are requested to make individual site visit and bid as per the actual site requirements. Also please refer to cl 1.14 & 1.15 of part 11, volume 2 section 7, Maximum safe bearing capacity and pile capacity of soil strata shall be taken as determined by the tenderer through his own independent investigations.
53	Vol 2 - Sec -7 of Vol 1, 15.20.1, TSPS & WwTPs Design/Sizing Criteria and Other Requirements	ADMIN BUILDING INCLUDES PLC SCADA, LABORATORY Number of Floors - G+2	We presume that, the admin building number floor would be G+1. Please confirm.	The requirement of admin building shall be as defined in the tender document.
54	Vol 2 - Sec -7 of Vol 1 , 1.14, Design Criteria for Underground or Partly Underground Liquid Retaining Structures	(vi) Structures shall be designed for uplift in empty conditions with the water table considered at FGL.	Please allow to design for uplift in empty condition with ground water table as per soil investigation report.	Refer cl 1.14 of part 11, volume 2, section 7, Structures shall be designed for uplift in empty conditions with the water table considered at FGL.
55	Vol 2 - Sec -7 of Vol 1 , 1.26, Cable and Pipe work Trenches	Cable and pipe work trenches shall generally be constructed in reinforced concrete. Trenches within the buildings or Plant areas shall be covered with M20 precast R.C.C covers. The trenches shall be suitably sloped to drain rain water. All uncovered openings shall be protected with hand railing	We presume that, cable shall be laid in buried condition at outside the building. Please confirm.	Tenderer shall refer Volume 2, Section 7, Part 12, cl. No. 12.5.19-f for cable installation

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
56	Vol 2 - Sec -7 of Vol 1, 1.15, Foundations	(i) The minimum depth of foundations for all structures, equipment, buildings, and frame foundations and load-bearing walls shall be as per IS 1904, but in any case, this shall not be less than 1.0 meter in the original soil.	We presume this clause is not applicable for the site which involve filling and ground improvement. In such sites which requires a site filling the foundation will be kept 1m minimum from FGL after carrying out the necessary ground improvement like stone column etc., Please confirm.	For Channasandra WwTP, Pile foundations is required for all major structures. For minor structures, soil stabilisation using geotextile for the top 1-1.5m may be considered as 6-7 T/sqm minimum. For piling minimum 450mm dia pile diameter for a minimum 15m length and 60-75 Ton Axial capacity may be considered. Minimum requirements at the site are mentioned in Cl 1.6 of part 1 in volume 2, section 7. However, the tenderers are requested to make their individual site visit and bid as per the actual site requirements. Also please refer to cl 1.14 & 1.15 of part 11, volume 2 section 7, Maximum safe bearing capacity and pile capacity of soil strata shall be taken as determined by the Bidder through his own independent investigations. However Tenderer is responsible for the details considered in his design and estimation for Tendering purpose. No claim in this regard will be considered during execution phase.
57	Vol 2 - Sec -7 of Vol 1 , 1.32, Non-Destructive Testing of RCC Structures	Non-Destructive Testing (NDT) shall be carried out as per the latest IS: 13311 codes as per theinstruction given by Employer.	Since all the Wwtp & TSPS will coming under new construction, we presume NDT of RCC structures is not applicable in this Tender. Please confirm	As per Cl 1.32 of part 11, volume 2 section 7, in case if there is any distress in concrete during the execution, Engineer can take decision to go for NDT on the RCC construction before taking any action. Contractor shall conduct NDT tests at his own cost.
58	Vol 2 - Sec -7 of Vol 1 , 1.28 & -Precast Compound Wall and Gate & SKETCH - 1	Compound wall shall consist of RC precast slab panels (M25) with minimum 60m thickness BWSSB logo written in both Kannada and English Languages RC post at regular intervals including plinth beam as supports for the panels and necessary RC foundation ..... & SKETCH - 1	We presume that, 60m thickness as in specification is a Typo error and the precast panels thickness shall be 60mm as per Sketch -1. Please confirm.	Shall be read as 60mm. Confirmed
59	Vol 2 - Sec -7 of Vol 1 , 5.11 & 1.23Design of Plant Layout & Roadways, Pathways & Hard standings	Minimum 750mm of paved walkway shall be provided on either side of road which shall be 300mm above the road surface. Contractor shall propose storm drain below this walkway. & All roads shall be designed and constructed as per the specifications and as per site requirements. Bidder shall provide minimum 3.5 m wide internal roads with 1.50m shoulder on one side, which shall be utilised for future expansion of the internal road and	We presume, the bidder shall follow the Specification for road & storm water drain as per Vol 2-Section7- Part-11 cl.no.1.23 of PARTICULAR TECHNICAL SPECIFICATIONS FOR CIVIL, STRUCTURAL AND PUMPING MAIN/SEWER NETWORK Please confirm.	The scope requirement shall be as defined in Part 5, Volume 2/Section 7 of the tender document. However, the specification, material and all other civil requirement including any additional scope shall be as specified in the Part 11 of the tender document.
60	Vol 2 - Sec -7 of Vol 1 , 1.29 and 1.6 Retaining wall & 1. Channasandra 20 MLD WwTP with TSPS:	Retaining wall shall be RCC with minimum M25 grade of concrete. Wall foundation shall be …….. And 4. The Gabion wall with chain-link fencing shall also be constructed for a length of not less than 500 m all-round the site.	This clause may not applicable as the scope of work is not envisaged the requirement of RCC retaining wall. Please confirm.	RCC Retaining wall is not required. Gabion wall with chain link fencing shall be provided all round the site. Refer Cl 1.5, part 1, volume 2, section 7 for scope of works for works-A.
61	Vol 2 - Sec -7 of Vol 1 , 1.16, Design Requirements	Cement used shall be BIS certified. Sulphate resistant cement shall be used for all liquid retaining structures and shall confirm to IS: 12330.	We presume, Ordinary Portland cement shall be used for all structures except Liquid retaining structures. Please confirm	Ordinary Portland cement shall be used for all non-liquid retaining structures and Sulphate resistant cement shall be used for all liquid retaining structures.
62	Vol -4, TN-KWSDRP-WBS5-CV-3014	Topographical Survey Layout for Proposed WwTP 20MLD Channasandra Bangalore	Kinldy provide AutoCAD Drawing format for the Proposed WwTP .	Will be uploaded in Portal. Refer Addendum-1

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63	General - Pile foundation		We presume, Ordinary Portland cement shall be used for Pile foundation if applicable. Please confirm	Ordinary Portland cement shall be used for pile foundations
64	General - Pile foundation		We presume that, reinforcement for pile foundation shall be HYSD Fe 500 if applicable. Please confirm	Refer cl 1.16 of part 11, volume 2, section 7, For reinforced concrete structures, reinforcement shall be HYSD-CRS (Corrosion Resistant Steel) of Grade Fe 500.
65	General- Geo technical report		Request you to give the GeoTechnical report for the Proposed WwTP 20MLD Channasandra Bangalore	For Channasandra WwTP, Pile foundations is required for all major structures. For minor structures, soil stabilisation using geotextile for the top 1-1.5m may be considered as 6-7 T/sqm minimum. For piling minimum 450mm dia pile diameter for a minimum 15m length and 60-75 Ton Axial capacity may be considered. Minimum requirements at the site are mentioned in Cl 1.6 of part 1 in volume 2, section 7. However, the tenderers are requested to make their individual site visit and bid as per the actual site requirements. Also please refer to cl 1.14 & 1.15 of part 11, volume 2 section 7, Maximum safe bearing capacity and pile capacity of soil strata shall be taken as determined by the Bidder through his own independent investigations. However Tenderer is responsible for the details considered in his design and estimation for Tendering purpose. No claim in this regard will be considered during execution phase.
66	Vol 2 - Sec -7 of Vol 1 , 9.5, Contractor's submittals	9.5 Schedule of submittals 3Jacking pipe design 4.Micro tunnelling system. 7.Jacking & Receiving shaft design 10.Monitoring of Ground settlement & up level.	We presume that, the documents in the said clause shall be provided after award of work for Works B Plese confirm.	Tender Conditions Prevails
67	Part 12 PARTICULAR ELECTRICAL PLANT REQUIREMENTS Volume-2 12.3 Power Supply Arrangement	WWTP , TSPS - 11kV (HT)	The bidder assumes the scope starts from the 11 kV ICOG panels. The incoming cable shall be in the scope of the owner. Also separate power supply will be provided for each of the WWTP and TSPS by the owner. Please confirm.	Tenderer scope starts with 11kV cable terminations at Utility Metering Panel, 11kV cable jointing kits, 11kV cable from Utility metering panel to 11kV outdoor VCB ICOG panel and all further plant works as per scope demarcation shown in Vol 2/ Sec 7, Part 12, Cl. 12.3 and Vol 4, Dwg. No.TN-KWSDRP-WBS5-EL-4001. Tenderer to refer the Vol 4, Dwg. No.TN-KWSDRP-WBS5-EL-4001, 415V PCC SLD for typical power supply arrangement to TSPS.
68	Part 12 PARTICULAR ELECTRICAL PLANT REQUIREMENTS Volume-2	WwTP: The outgoings of the 11kV indoor panel for plant distribution shall feed • 2 Nos. of 11/0.433kV Distribution Transformers for WWTP plant loads. • 2 Nos. of 11/0.433kV Distribution Transformers for Process Air Blowers loads.	The tender documents considers 4 units of 11/0.433KV transformers. The bidder assumes the transformer size and qty can be revised based on the process design load. Please confirm	Tender Conditions prevails
69	Part 12 PARTICULAR ELECTRICAL PLANT REQUIREMENTS Volume-2 12.4.6 System Protection	(i) Motors upto 11kW Motor Protection Circuit Breaker (MPCB) (ii) Motors 15kW up to 75kW MCCB (iii) Motors above 75kW ACB/MCCB	The bidder shall consider using a 400A MCCB for current rating up to 400A, and an ACB for current rating above 400A. Please confirm.	Tender Conditions Prevails. Tenderer to refer Vol 2/ Sec 7, Part 12, Cl. 12.5.11 for MCCB/ACB selection based on feeder ratings.
70	Part 12 PARTICULAR ELECTRICAL PLANT REQUIREMENTS Volume-2, 12.4.7, Switchgear Instruments	415V Motor Starter Feeders (i)DOL Starters for motor feeders less than or equal to 5.5kW (ii) Star-Delta Starters for motor feeders above 5.5kW and up to 30kW (iii) Line/Neutral Soft Starters for motor feeders above 30kW	The bidder proposes to consider the selection of motor starters as follows: Direct On-Line (DOL) starters for motors less than or equal to 55 kW. Soft starters for motors greater than or equal to 55 kW. VFDs shall be chosen based on process requirements. Please confirm	Tender Conditions prevails

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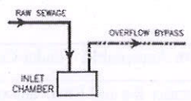
71	Part 6 GENERAL ELECTRICAL REQUIREMENTS Volume-2, 6.5, 415V Metal Enclosed Switchgears (PCC /	The 415V metal-enclosed switchgear (PCC/MCC) system shall have provisions for interoperability with the instrumentation control system. MCC / PCC panel boards shall be offered for final inspection at the OEM's works with routine tests.	Bidder proposed to considered authorized system integrator for LV panel (PCC/MCC). Please confirm	Tender Conditions prevails
72	Part 6 GENERAL ELECTRICAL REQUIREMENTS Volume-2, 6.53 & 12.4.6, Air Circuit Breaker (ACB)	Air circuit breaker shall be selected for feeders for load current more than 630A	In the ACB schedule, Clause No. 6.5.3 mentions that Air circuit breaker shall be selected for feeders for load current more than 630A, but Clause No. 12.4.6 Motors above 75kW ACB/MCCB. Please clarify which one is to be followed?	Tender Conditions Prevails. Tenderer to note that ACB selection criteria is already specified in cl. 6.5.3. Also MCCB/ACB selection based on feeder ratings is also specified under Vol 2/ Sec 7, Part 12, Cl. 12.5.11.
73	Part 12 PARTICULAR ELECTRICAL PLANT REQUIREMENTSVolume-2, 12.4.1, On Grid connected Solar PV System, 6.5.4 & 13.29	Tender clause: The below list of buildings in WwTP shall be considered a minimum for Rooftop Solar power generation with solar PV panels installed capacity of not less than 300kW considering minimum solar PV output of 540Wp per panel & module efficiency 20% (minimum) with minimum panel installation surface area requirements	Bidder understands that the solar plant capacity should not be less than 300KWp and also bidder can free to design the Solar Plant area based on the tender requirement. Please confirm	Tender Conditions prevails
74	Part 12 PARTICULAR ELECTRICAL PLANT REQUIREMENTS Volume-2, 12.4.1, On Grid connected Solar PV System	Tender Clause: The power generation from the Solar PV panels on roof top and tank top shall not be less than 4,50,000 kWh/year (37,500 kWh/Month) failing which a penalty will be levied as per Technical Schedule X of Volume 2, Section 7B	As solar power generation varies month to month due to fluctuations in solar irradiance, the Bidder shall guarantee an annual total power generation of 450,000 kWh/year from the solar PV panels, but shall not be required to guarantee a fixed monthly generation of 37,500 kWh. Please confirm	Tender Conditions prevails. Bidder to note that the power generation value specified (37,500 kwh/month) in the tender is of monthly average. Also Refer Technical Schedule X of Volume 2.
75	Part 12 PARTICULAR ELECTRICAL PLANT REQUIREMENTS Volume-2, 6.5.4 & 13.29, Intelligent Motor Protection Relay , DWG No- TN-KWSDRP-WBS5-IC-5009 & Typical Drive Control Philosophy to be provided on a minimum shall be as follows:	The intelligent motor controller for 3-phase AC induction motors combining the two classical functions of motor protection and motor management in a single device plus offering diagnostic and fieldbus communication.	Bidder assumes that protocol based fieldbus communication shall be provided between the PLC and MCC. Please confirm.	The Bidder may please be noted that the standard known protocols shall be used for any third party communication interface to the Plant PLC / SCADA system as specified under clause no.13.27, Part 13.
76	Part 12 PARTICULAR ELECTRICAL PLANT REQUIREMENTS	415V PCC/MCC & 415V DG PCC shall be Single front, floor standing, top cable entry, sheet steel enclosed with IP 54 Degree of Protection	The bidder shall consider double front type PCC/MCC panel. Please confirm.	Tender conditions prevails. Double Front construction criteria is specified under cl. 12.5.11 of Part 12, Volume 2/ Section 7
77	General	Diesel Engine	Please clarify the DG requirements for the lift pumping station and specify which loads need to be connected to it.	DG set is not required for Lift Pumping Stations. Tenderer to refer Vol 2/ Sec 7, Part 12, Cl. 12.5.10 for DG requirements.
78	General	Cable Tray	The bidder presumes that all external cables shall be directly buried, and cables within the building shall be laid in cable trays. Please confirm.	Tender Conditions Prevails. Tenderer shall refer Volume 2, Section 7, Part 12, cl. No. 12.5.19-f for cable installation
79	BWSSB_WWTP-TTF_Mahadevapura/ 00_Tender doucment / VOLUME 4_DRAWINGS, Drawing No: TN-KWSDRP-WBS5-CV-3058, Inlet Routing		Plant inlet flow (Gravity / Pumped) is not mentioned in the tender document. Hence Please specify the plant Inlet flow type whether gravity inlet (or) pressure inlet for Iblur 20 MLD WWTP.	Inlet chamber of the TSPS receives a gravity flow

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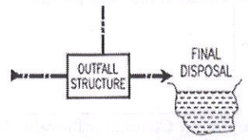
80	BWSSB_WWTP-TTF_Mahadevapura/ 00_Tender doucment / VOLUME 4_DRAWINGS, Drawing No: TN-KWSDRP-WBS5-CV-3058, Outfall location		We presume that for Outfall location is not mentioned in the tender document. Kindly provide us the exact location marked in the layout for treated effluent final disposal.	Tender Conditions prevails. Outfall location for discharge shall be to the nearby water body.
81	BWSSB_WWTP-TTF_Mahadevapura/ 00_Tender doucment / VOLUME 2 _TECHNICAL SPECIFICATION AND SCHEDULE, 5.13 Hydraulic Design Requirement, Velocity Criteria	• Maximum pipe flow velocity shall be no more than 1.0 m/s for all gravity flow and pump suction lines unless specified otherwise. • Maximum pipe flow velocity shall be no more than 1.5 m/s for all pumped discharge lines unless specified otherwise. • Calculated normal velocity (at 20°C and 1atm) of air piping shall not be more than 16 m/s. • For channels, the maximum velocity shall be no more than 1.0 m/s. • For liquids the maximum velocity through gate opening shall be no more than 0.8 m/s unless specified otherwise.	We recommended Maximum Velocities for Pump suction & discharge shall be considered as follows: 1. Pump Suction - 1.5 m/s (max.) 2. Pump Discharge - 2.5 m/s (max) Please confirm.	Tender Conditions prevails
82	BWSSB_WWTP-TTF_Mahadevapura/ 00_Tender doucment / VOLUME 2 _TECHNICAL SPECIFICATION AND SCHEDULE, 5.13 Hydraulic Design Requirement, Velocity Criteria	• Maximum pipe flow velocity shall be no more than 1.0 m/s for all gravity flow and pump suction lines unless specified otherwise. • Maximum pipe flow velocity shall be no more than 1.5 m/s for all pumped discharge lines unless specified otherwise. • Calculated normal velocity (at 20°C and 1atm) of air piping shall not be more than 16 m/s. • For channels, the maximum velocity shall be no more than 1.0 m/s. • For liquids the maximum velocity through gate opening shall be no more than 0.8 m/s unless specified otherwise.	Velocity for Process air and Odour piping is not mentioned in the tender document. Hence we presume that pipe sizing velocity criteria shall be considered as follows: 1. Process Air- 20 m/s (max.) 2. Odour Duct- 8 m/s (max.) Please confirm.	Tender Conditions prevails
83	BWSSB_WWTP-TTF_Mahadevapura/ 00_Tender doucment / VOLUME 2 _TECHNICAL SPECIFICATION AND SCHEDULE, 6. Portable Screenings Container, Pipe MOC	a) Material of Construction The material of construction of the Combi Unit shall be grade 316L stainless steel and an Odour control system, a Carbon filter shall be FRP Vessel.	Odour duct MOC is not mentioned in the tender document. Hence, We presume that GRP MOC shall be used for Odour ducts. Please Confirm.	Not Acceptable. It shall be FRP only as same as main vessel. Tender Conditions prevails.
84	BWSSB_WWTP-TTF_Mahadevapura/ 00_Tender doucment / VOLUME 2 _TECHNICAL SPECIFICATION AND SCHEDULE, 8.11 Manual Medium Bar Screen for WWTP, Pipe MOC	Design, construction, testing and commissioning of all civil structures, building works, bypass lines and other pipelines complete.	We presume that the bypass pipe line shall be RCC pipe (NP3) / RCC Channels. Please confirm	Tenderer can adopt RCC NP3/ DI Pipe.
85	Price schedule		Kindly share the excel format for the complete BOQ for works B	Not Acceptable. Tender Conditions Prevails.
86	Tender Fee & EMD		Bidder presume that Tender fee and EMD amount mentioned in the tender is inclusive of GST. Kindly confirm	Tender fee and EMD amount shall be paid as indicated in the KPPP portal.
87	General		Bidder persumes that power and water required for the construction work will be provided by employer at one point(FOC)	Tender Conditions Prevails

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88	General		With reference to the tender document, the following documents are not available for preliminary costing and consideration for bid submission: LS (Longitutinal sectional) Drawing for overall mahadevapura, Geo technical report for the WWTP & Lifting Station location .	All the required documents /drawings required for bidding requirement are already included in the Tender documents
89	General		Bidder presumes that Vendor list mentioned in the tender is tentative, bidder can propose the make list further during detail engineering for employer approval.kindly confirm	Tender Conditions Prevails
90	Volume-2 /Section-7, Part 5 -31	**Influent Wastewater Characteristics** pH — 6.5-7.5 BOD — mg/L — 350 COD — mg/L — 800 TSS — mg/L — 450 VSS — mg/L — 360 TKN — mg/L — 70 NH4-N — mg/L — 45 Total Phosphorus — mg/L — 7	As per the clause referenced in the tender document, the BOD value of 350 mg/L corresponds to a COD of 800 mg/L, which indicates a relatively high COD/BOD ratio. Typically, as per CPHEEO guidelines, a BOD of 250 mg/L with a COD of 425 mg/L is considered standard.We assume that the sewage does not contain any industrial effluent and that the COD is primarily biodegradable.Please confirm	The design influent parameters requirement shall be as defined Part 5, Cl.no. 5.20.1, "TSPS & WwTPs Design / Sizing Criteria".
91	Volume-2 / Section-7, Part 5 -31	**Influent Wastewater Characteristics** COD — mg/L — 800	We presume that there is no ingress of industrial effluent in the sewage, and that more than 95% of the COD is biodegradable, with less than 5% being non-biodegradable.Alternatively, the treated effluent COD performance requirements may be considered for relaxation, provided the Contractor can demonstrate that a portion of the influent COD is non-biodegradable and cannot be removed using the existing treatment processes at the Works.Please confirm.	Bidder may consider Non-biodegradable COD as per the bidder design.
92	Volume-1 / Page 15 of 236	Construction Experience- PipelineThe tenderer must have experience in the role of Prime Contractor (Single entity or JV member)/Management Contractor for procurement and construction of pipeline (DWC/RCC/DI) with a minimum diameter of 200 mm & above in any one year during the last 5 years as on date of bid submission involving minimum length of 15 Km	We would like to bring to your attention that only a limited number of bidders are currently able to qualify under the existing criteria. The specific requirements, particularly regarding the construction experience, are preventing several competent bidders from meeting the overall qualification standards.In light of this, we respectfully request that you consider permitting bidders to submit a Memorandum of Understanding (MoU) with aspecialist subcontractor who meets the required qualifications. We believe this approach would promote fair competition and enable capable teams to participate more effectively.Please confirm.	Not Acceptable. Tender Conditions Prevails.
93	Volume-1 / Page 15 of 236	(vi) Construction Experience Trenchless WorksThe Tenderer must have experience in the role of Prime Contractor (Single entity or JV member)/Management Contractor for executing trenchless work 600mm dia. and above MS casing pipe of minimum 100 meters in any one year during the last 5 year as on date of bid submission.	We would like to bring to your attention that only a limited number of bidders are currently able to qualify under the existing criteria. The specific requirements, particularly regarding the construction experience, are preventing several competent bidders from meeting the overall qualification standards.In light of this, we respectfully request that you consider permitting bidders to submit a Memorandum of Understanding (MoU) with a specialist subcontractor who meets the required qualifications. We believe this approach would promote fair competition and enable capable teams to participate more effectively. Please confirm.	Not Acceptable. Tender Conditions Prevails.

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94	Volume-1 / Page 14 of 236	Technology provider shall provide the evidence that he has successfully supplied the technology for at least 1 (One) WWTP same as 3.1.2 (b)(i)3.1.2. (b) (i) Experience in Execution of WwTPsThe tenderer as a sole entity or a Lead Partner and or Partner in a Joint Venture shall have successfully completed, including Design, Procurement, Supply, Installation, Construction, Testing, and Commissioning of all Civil, Mechanical, Electrical, and Instrumentation Works of minimum One (1) No. WwTP of 16 MLD capacity and above or Two (2) Nos. of Waste Water Treatment Plants of minimum 8 MLD capacity with Biological Nutrient Removal (BNR) technology of process like , A2O, EA, IFAS, MBBR, SBR, with SCADA Integration, to meet effluent standard as BOD ≤ 10 mg/L, COD ≤ 50 mg/L, TSS ≤ 10 mg/L, TN ≤ 10 mg/L, TP ≤ 1 mg/L and fecal MPN/100 ml and should be in operation for a period of one year during the last 5 years as on date of Bid submission.	As per the Tender document, the Technology Provider is required to demonstrate that they have successfully supplied the specified technology for at least one Wastewater Treatment Plant (WWTP),as outlined in clause 3.1.2 (b)(i).We understand that this clause refers to the effluent quality at the final discharge point of the Sewage Treatment Plant (STP), rather than immediately following the secondary treatment stage. Accordingly, to demonstrate compliance, the Technology Provider for the secondary treatment system must ensure that the final treated effluent meets the following parameters, as specified— excluding fecal coliform:• BOD ≤ 10 mg/L• COD ≤ 50 mg/L• TSS ≤ 10 mg/L• Total Nitrogen (TN) ≤ 10 mg/L• Total Phosphorus (TP) ≤ 1 mg/LPlease confirm.	Refer Addendum-1
95	Volume-1 / Page 14 of 236	Technology provider shall provide the evidence that he has successfully supplied the technology for at least 1 (One) WWTP same as 3.1.2 (b)(i)	As per the Tender document, the Technology Provider must submit evidence of having successfully supplied the technology for at least one (1) wastewater treatment plant (WWTP), in accordance with Clause 3.1.2(b)(i).We observe that the clause does not clearly specify the required capacity of the reference WWTP. However, it is our understanding that the Technology Provider is expected to demonstrate experience in supplying the technology for at least one (1) WWTP of 4 MLD capacity, as per the intent of Clause 3.1.2(b)(i).Please confirm.	Refer Addendum-1
96	Volume-2 / Section-7, Part 5 -5	N-1 condition: - The Bidder shall provide calculations for operating the WwTP at Design Flow with 1 SBR tank offline for maintenance.	In the earlier BWSSB tender—specifically the CP25 package and the 10 MLD STP at Jakkur, which adopted SBR technology—this particular clause was omitted. We presume that a similar approach will be adopted for the current tender as well.Please confirm.	Tender Conditions Prevails
97	Volume-2 / Section-7, Part 5 -5	HRT at average flow: 24 Hrs.	Hydraulic Retention Time (HRT) is a derived parameter based on the selected SBR cycle time and the inlet sewage characteristics. We understand that the HRT should be determined in accordance with the process requirements and the Technology Provider's recommendations to meet the effluent quality standards specified in the tender. Please confirm.	Tender Conditions Prevails
98	Volume-2 / Section-7, Part 5 -52	Maximum Decanter Weir loading rate: 120 m3/h/m	In the earlier BWSSB tenders for CP25, CP26, and CP27 packages based on SBR technology, the maximum decanter weir loading rate was specified as 125 $m^3/h/m$ (Addendum-8). We assume that this same rate will be applicable to the current tender as well. Please confirm.	Tender Conditions Prevails
99	Volume-2 / Section-7, Part 8 -98	Decanters (For SBR system)	We assume that all decanter specifications will be acceptable based on the technology provider's standard specifications, as the bidder is required to submit the technology tie-up agreement in the technical bid.Please confirm.	Tenderer or Technology supplier can adopt with his own Patent concept of Decanter Equipment, but has to justify such thickness adopted for the steel member with suitable Structural Analysis Report for the fabricated Steel Structure of Decanter Mechanism.
100	Volume-2 / Section-7, Part 8 -98	Decanters (For SBR system)All the withdrawal SS 316L Pipes shall be of thickness not less thanSchedule 20S above 200 mm and Schedule below 200 mm shall be ofSchedule 40S, and all the pipes shall be of Seamless type only.	It is presumed that the decanter mechanism forms an integral part of the technology components. Additionally, the bidder is required to submit the Technology Tie-Up Agreement as part of the technical bid. Accordingly, the pipe schedule(s) mentioned under the decanter specifications shall not be applicable to the decanter system.Kindly confirm.	Tenderer or Technology supplier can adopt with his own Patent concept of Decanter Equipment, but has to justify such thickness adopted for the steel member with suitable Structural Analysis Report for the fabricated Steel Structure of Decanter Mechanism.

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101	Volume-2 / Section-7, Part 5 - 53	8. Process Air Blowersα: Oxygen Transfer Correction Factor - 0.6β: Salinity - Surface Tension Correction Factor - 0.95F: Fouling Factor - 0.8	The factors provided in the tender document— Alpha, Beta, and the Fouling Factor—are dependent on the type of diffuser, material of construction (MoC), and self-cleaning capacity, which can vary within the range specified in the latest edition of Metcalf and Eddy. Therefore, we assume that these factors can be considered in accordance with the latest edition of Metcalf and Eddy for designing the aeration system.Please confirm.	Tender Conditions Prevails
102	Volume-2 / Section-7, Part 8 - 82 to Part 8-101	8.18 Aeration system with allied Equipments 8.18.1 Tubular Type Diffusers & 8.18.15.2 Diffuser system for IFAS 8.18.15.3 Type of Diffuser System 8.18.15.4 Diffuser Elements 8.18.15.5 Testing for Diffuser system 8.18.15.6 Air Piping to Diffusers	The Tender document specifies two different diffuser specifications as outlined in the referenced clause.We understand that the diffuser specifications provided in Clause 8.18.15.2 to 8.18.15.6 are applicable to the aeration system for all secondary treatment processes where diffused aeration is used.Please confirm.	Diffuser specification shall be as per Cl.no.8.18.1 only and Cl.no. 8.18.15.2 to 8.18.15.6 stands deleted. Refer Addendum-1.
103	Volume-2 / Section-7, Part 8 - 90	<table><tr><th>Si.no.</th><th>Description</th><th>Material of Construction</th></tr><tr><td>f</td><td>Acoustic enclosure</td><td>Al-Zn coated steel, insulated with glass wool</td></tr></table>	Recently, various materials of construction (MOC) for acoustic enclosures for turbo air blowers have become available. We kindly request permission for the tenderer to provide an acoustic enclosure for the turbo blower based on the manufacturer's standard MOC. Please confirm.	Superior material than specified in the tender can be adopted with justification and without any cost implication to BWSSB.
104	Volume-2 / Section-7, Part 8 - 161	40 Disc Filtration System List of Approved Suppliers: Manufacturer for Disc Filter: M/s Hydro Tech M/s Xylem M/s Estragua M/s Jash Invent M/s Huber M/s Aqua Aerobics M/s Evoqua water Technologies	M/s Yucheon has been accepted as a disc filter supplier in several previous BWSSB tenders, including the STP packages of CP-25, 26, and 27, the 10 MLD STP at Jakkur, the 150 MLD Capacity STP Based on ASP with BNR System at V Valley, the 60 MLD Capacity STP with IFAS Process at Hebbal, the 5 MLD STP at Chikkabanavara, the 40 MLD STP at Rajacanal (Phase II), and the 60 MLD Capacity STP with IFAS Process at Horamavu.Therefore, we assume that the tenderer can propose M/s. Yucheon Fiber Disc Filter for this tender.Please confirm.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
105	Volume-2 / Section-7, Part 5 - 56	DISC FILTERDesign flow per unit: Designed for 100% Peak Flows including recycle flows - Irrespective process	We understand that the design flow for the disc filter unit should be based on the maximum incoming flow to the unit. In the case of the SBR system, the FDF unit should be designed based on the average flow or the decant flow, whichever is higher.Please confirm.	Tender Conditions Prevails
106	Volume-2 / Section-7, Part 1 - 9Volume-2 / Section-7, Part 5-31	<table><tr><th>Parameters</th><th>Unit</th><th>Value</th></tr><tr><td colspan="3">TREATED EFFLUENT QUALITY REQUIREMENTS - DISCHARGE</td></tr><tr><td>pH - Instantaneous range</td><td>-</td><td>6.5-8.0</td></tr><tr><td>BOD_3 at 20°C - Maximum monthly average</td><td>mg/L</td><td>10</td></tr><tr><td>COD - Maximum monthly average</td><td>mg/L</td><td>50</td></tr><tr><td>TSS - Maximum monthly average</td><td>mg/L</td><td>10</td></tr><tr><td>TN - Maximum monthly average</td><td>mg/L</td><td>10</td></tr><tr><td>Total Phosphorus - Maximum monthly average</td><td>mg/L</td><td>1</td></tr><tr><td>Residual Chlorine - Instantaneous</td><td>mg/L</td><td>1</td></tr><tr><td>Fecal Coliform – Maximum Monthly average</td><td>MPN/100 mL</td><td>100</td></tr><tr><td>Fecal Coliform – Ceiling Limit (in any day)</td><td>MPN/100 mL</td><td>230</td></tr></table>	As per the tender document, the treated effluent quality parameters such as BOD, COD, TSS, TN, and TP are expected to be achieved at the outlet of the biological treatment process (e.g., SBR). Therefore, a Disc Filter is not required solely to meet these parameters. Accordingly, we understand that the provision of a Disc Filter shall be based on the process requirement.Kindly confirm.	Tender Conditions Prevails. The requirement shall be as defined in the Tender document.

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107	Volume-2 / Section-7, Part 8 - 136		The specifications provided for Disc Filters appear to be specific to a particular vendor and are aligned with the offerings of only one or two vendors listed in the approved vendor list. Accordingly, we understand that the Disc Filter specifications shall be deemed acceptable as per the approved vendor's standard design. Kindly confirm.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
108	Volume-2 / Section-7, Part 8 - 138		Filter Membrane: Stainless steel screen/Mesh:SS-316L Hence, we assume that the tenderer can also provide filter membranes made from polyester cloth or SS316 material for this tender. Please confirm.	Tender Condition Prevail.
109	Volume-2 / Section-7, Part 8 – 1	….. the automatic valve and suction cleaning pump which shall be	Nowadays, all vendors are supplying fiber disc filters with submersible centrifugal pumps for disc backwash, which do not require automatic valves at the discharge end. This type of arrangement has been accepted and supplied in several BWSSB tenders, such as the 150 MLD Capacity STP Based on ASP with BNR System at V Valley, the 60 MLD Capacity STP with IFAS Process at Hebbal, the 5 MLD Capacity STP at Chikkabanavara, the 40 MLD Capacity STP at Rajacanal (Phase II), and the 60 MLD Capacity STP with IFAS Process at Horamavu, among others.Therefore, we understand that this arrangement should also be acceptable for the current tender.	For automatic Backwash operation this valve is suggested in fully submerged Disc filters, Tenderer can follow alternative arrangement as per vendor recommendation, considering auto operation system of Backwashing based on clogging alarm.
110	Volume-2 / Section-7, Part 8 - 13	Protective Top Cover and Body cover along with frame structure : SS316 (Minimum 4mm for Body cover)	As per the tender document, we are proposing a fully submerged fiber disc filter. This type of filter does not require any covering, shed, or RCC roof. Therefore, we assume that a fully submerged fiber disc filter without a cover will be acceptable. Please confirm.	In cl.no. 8.26, Table "Technical Particulars Common for both Partially Submerged or Fully Submerged type Disc Filtration System", Tenderer can consider the specification, based on his design adopted either of two system. RCC structure as defined in the tender document is mandatory for both the system.
111	Volume-2 / Section-7, Part 5 -31	DISC Filter building	As per the tender document, we are proposing a fully submerged fiber disc filter. This type of filter does not require any covering, shed, or RCC roof. Therefore, we assume that a fully submerged fiber disc filter without a roof will be acceptable. Kindly confirm.	Tender Conditions Prevails
112	Volume 2, Page no. TECHNICAL SCHEDULE X-2	a) Energy Consumption for TSPS, WwTP without ReusePCA =[{PCD}*{(0.42*QA/QD)+(0.24*BA/BD)+(0.24*TA/TD)+(0.1*NA/ND)}]	The specified formula for energy consumption is not applicable in the case of the Terminal Sewage Pumping Station (TSPS), as energy usage in this context is based on the volume of sewage pumped rather than on pollutant load parameters such as BOD, TSS, or TKN. Accordingly, we understand that the formula provided for calculating energy consumption for the Intermediate Sewage Pumping Station (ISPS) should also apply to the TSPS.Please confirm.	Tender Conditions Prevails
113	Volume-2 / Section-7, Part 5 -55	ALUM DOSING SYSTEM (FOR ALL TREATMENT PROCESSES)	As stated in the tender, an alum dosing system is required for chemical phosphorus removal. However, we assume that if the Total Phosphorus ≤ 1 mg/L, as specified in the tender, is achieved biologically through the Biological Nutrient Removal process, then the alum dosing system will not be necessary. Therefore, the alum dosing system should be considered optional and provided only if required, based on the process requirements to achieve Total Phosphorus ≤ 1 mg/L. Please confirm.	Tender Conditions Prevails

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114	Volume-2 / Section-7, Part 3-13 & 3-14	3.16.4 Bid Drawings and Details (a) General and Process. (b) Mechanical (c) Electrical & Instrumentation	The tender specifies a large number of documents for submission. It is not feasible to submit all these documents at the bidding stage. We understand that the submittals under the categories a) General and Process shall be provided during the bidding stage, while all other documents will be submitted after the award of the contract. Please confirm.	The Tenderer shall submit all the document specified under the clause 3.16.4 Bid Drawings and Details for (a) General and Process, (b) Mechanical, (c) Electrical & Instrumentation. However, the "To-scale dimensional layout and/or installation drawings" as specified under the clause 3.16.4 (b) Mechanical (i) can be omitted during the bidding stage. However, Tenderer shall provide a undertaking for non-submission.
115	Volume-2 / Section-7, Part 5 - 40/44/49	SECONDARY CLARIFIERS (EA PROCESS) SECONDARY CLARIFIERS (IFAS PROCESS) SECONDARY CLARIFIERS (MBBR PROCESS)	The tender states that the bidder must provide calculations for operating the WWTP at design flows with one tank/unit/module offline for maintenance. We assume that this requirement also applies to secondary clarifiers.Please confirm.	Tender Conditions Prevails
116	Volume-2 / Section-7, Part 7 - 54	PLC shall be provided as a Hot Stand-by Controller	We understand that a redundant PLC system has been specified to prevent extended interruptions in plant operations and control. Alternatively, the same level of reliability can be ensured by using a standard non-redundant PLC system, supported by pre-programmed spare components such as CPU, power supply, etc. In the unlikely event of a PLC failure, the system can be restored within 1–2 hours using these spares. Please confirm whether a non-redundant PLC with essential pre-programmed spares is acceptable.	Not Acceptable.The Plant master controller station shall be provided with two identical central processors configured such that they operate in Hot-Standby mode.The system shall be designed and implemented such that when the Main processor fails, the Standby one shall automatically take over. The changeover shall be seamless, smooth and without any time delay and this Hot-Standby feature is to be proposed for WwTP SCADA control room as per Clause No.13.27, Part-13, Volume-2 of the Tender Document. Hence, the Tender Condition Prevails.
117	Volume 2/Section 7, Part 7-54 & part 7-56	7.13.1Redundant SCADADual redundant SCADA system and Historian softwareOperator work Station, loaded with Runtime SCADA ServerSCADA Operator work station with licensed SCADA softwareSCADA Engineering work station with licensed SCADA software	The operators available at the STP are generally not trained to carry out programming or modifications in the SCADA system, and allowing them to do so may pose operational risks. SCADA modifications require expert programmers who possess the necessary licenses and skills. Therefore, we kindly request that only runtime software for SCADA be considered. Please confirm.	Not Acceptable. The PLC cum SCADA softwares capable of modification on Control System Logic updation cum SCADA Screen Graphics during run time without any impact on WwTP Process. The Control Logic & SCADA Graphics screens tested & witnessed during Factory Acceptance Test (FAT) at authorized Original Equipment Manufacturer's (as per approved OEMs list in Part-13) workshop and PLC Logics cum SCADA Graphics Screens in line with approved Plant Operational control philosophy prior to dispatch to site as per Clause No. 14.19.B, Part-14 of tender document. Hence, the critical logic updations are not allowed at site only minor modifications shall be updated through authorized licensed programmer of original equipment manufacturer's for which necessary training provided by authorized licensed programmer to the O&M team as per Clause no.15.1.6, Part-15 in tender document. The SCADA shall be a fully dual redundant microprocessor based computer system such that reliable and fully automatic plant control can be achieved by using Hot-Standby PLC system. The SCADA software functions are to be complied as per clause nos.13.27,13.34 & 13.35, Part-13 in Volume-2 of the tender document. Hence, the Tender Conditions Prevails.
118	Volume-2 / Section-7, Part 7 - 56	Historian Software	As alarms and trends are already stored within the computer-based SCADA system, which includes an inbuilt SQL server, a separate historian system is not necessary. Therefore, we request you to consider a PLC and SCADA system without the requirement for a separate historian. Please confirm.	Not Acceptable. In addition with Redundant SCADA system,the Historian software system shall be designed and configured to store data for a minimum of seven years data retrieval as per Clause No.7.13.4, Part-7 in Volume-2 of the tender document. Hence, the Tender Conditions Prevails.

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<tr><td>119</td><td>SECTION 2, INSTRUCTIONSTO TENDERERS (ITT) Page 15 of 236</td><td>3.1.2. (b)(ii)Construction Experience- Reuse Plant (with Tertiary Level)---</td><td>The proposed tertiary treatment technology is the ultrafiltration (UF) process. Given that the UF system is a critical component of the TTP and that the overall system guarantee is closely tied tomembrane design and technology, it should be mandatory for the bidder to enter into a tie-up with a qualified membrane supplier.Accordingly, we propose the following qualification requirement:“The bidder must establish a tie-up with the ultrafiltrationmembrane supplier or its authorized distributor and submit a Technology Tie-up Agreement as part of the technical bid. Themembrane supplier or its authorized distributor must have experience in supplying the proposed ultrafiltration system for at least one (1) tertiary treatment plant of minimum 10 MLD capacity (net output) in India for any State/Central Government organization or ULB, which has been operational and performing satisfactorily for a minimum of two years as of the tender calling date. A performance certificate from the end user, certified by an officer not below the rank of Executive Engineer, must be submitted.”Please confirm.</td><td>Tender Conditions Prevails</td></tr>
<tr><td>120</td><td>SECTION 2, INSTRUCTIONSTO TENDERERS (ITT) Page 15 of 236</td><td>3.1.2. (b)(ii)Construction Experience- Reuse Plant (with Tertiary Level)The Reuse Plant (with Tertiary Treatment) have to meet following criteria for the treated effluent
<table><tr><th>Parameter</th><th>Unit</th><th>Specified Maximum Concentration</th></tr><tr><td>Turbidity</td><td>NTU</td><td>≤ 2</td></tr><tr><td>TDS</td><td>mg/l</td><td>≤ 1000</td></tr><tr><td>TN</td><td>mg/l</td><td>≤ 5</td></tr><tr><td>BOD</td><td>mg/l</td><td>≤ 5</td></tr><tr><td>COD</td><td>mg/l</td><td>≤ 30</td></tr><tr><td>TP</td><td>mg/l</td><td>≤ 1</td></tr><tr><td>Fecal Coliform</td><td>mg/l</td><td>NIL</td></tr></table></td><td>The proposed technology for tertiary treatment is ultrafiltration. As per the tender, bidders are required to have experience in reuse plants with a Total Nitrogen (TN) guarantee of < 5 mg/L. However, in reuse plants using treated sewage, a TN guarantee of < 5 mg/L cannot be ensured after the ultrafiltration process. This is because total nitrogen removal in ultrafiltration systems is incidental to the removal of suspended solids. Therefore, we kindly request that the TN guarantee requirement at the outlet of the tertiary treatment plant be adjusted to < 10 mg/L or as arising from the experience criteria.Please confirm.</td><td>Refer addendum-1</td></tr>
<tr><td>121</td><td>SECTION 2, INSTRUCTIONSTO TENDERERS (ITT) Page 15 of 236</td><td>3.1.2. (b)(ii)Construction Experience- Reuse Plant (with Tertiary Level)The Reuse Plant (with Tertiary Treatment) have to meet following criteria for the treated effluent
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<tr><td>122</td><td>TSPS & WwTPs Design / Sizing CriteriaPart 5-32 & Part 5-59</td><td>TREATED EFFLUENT QUALITY REQUIREMENTS FOR REUSE (APPLICABLE AS SPECIFIED)
<table><tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Channasandra</th></tr><tr><td>TN</td><td>mg/l</td><td>≤ 5</td></tr></table>&
Reuse Facilities:
<table><tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Channasandra</th></tr><tr><td>Membrane Pore Size</td><td>-</td><td>0.01 – 0.03 microns to remove suspended solids, bacteria and viruses</td></tr><tr><td></td><td></td><td>solids, bacteria and viruses</td></tr></table></td><td>As per the tender, the proposed technology for tertiary treatment is the ultrafiltration process. Ultrafiltration membranes are designed to remove suspended solids, bacteria, and viruses, as outlined in referred Part of the tender. Therefore, nitrogen removal in ultrafiltration systems is incidental to the removal of suspended solids and cannot be guaranteed.In light of this, we kindly request that the Total Nitrogen removal guarantee at the outlet of the tertiary treatment plant after ultrafiltration be set to < 10 mg/L or considered as "As Arising."Please Confirm..</td><td>The design effluent quality requirement for Reuse shall be as defined in the tender document.</td></tr>
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123	TSPS & WwTPs Design / Sizing Criteria Part 5-32& Part 5-59	TREATED EFFLUENT QUALITY REQUIREMENTS FOR REUSE (APPLICABLE AS SPECIFIED) Item/Parameter/Description | Units | WwTP at Channasandra TDS | mg/l | <= 1000 & Reuse Facilities: Item/Parameter/Description | Units | WwTP at Channasandra Membrane Pore Size | - | 0.01 – 0.03 microns to remove suspended	As per the tender, the proposed technology for tertiary treatment is the ultrafiltration process. Ultrafiltration membranes are designed to remove suspended solids, bacteria, and viruses, as outlined in mentioned clause. Therefore, the incoming TDS will pass unobstructed through the ultrafiltration membrane. A TDS outlet of < 1000 mg/L can only be guaranteed if the incoming TDS to theultrafiltration unit is less than 1000 mg/L.In light of this, we kindly request that the TDS guarantee be deleted or that the TDS guarantee at the outlet of the tertiary treatment plant be considered as "As Arising."Please Confirm..	Tender Conditions Prevails. TDS at outlet of <1000 mg/L can be guaranteed as long as the influent sewage TDS is < 1000 mg/L.
124	TSPS & WwTPs Design / Sizing Criteria Part 5-58	Reuse Facilities: Item/Parameter/Description | Units | WwTP at Channasandra Reuse Flow | MLD | 10	We assume that the "Reuse Flow" refers to the flow at the outlet of the Ultrafiltration Plant (Permeate Flow).Please confirm.	Refer addendum-1
125	TSPS & WwTPs Design / Sizing Criteria Part 5-58	Reuse Facilities: Item/Parameter/Description | Units | WwTP at Channasandra No of Membrane Trains | Nos | 5	The term "trains" is typically used for pressurized ultrafiltration systems and does not apply to submerged ultrafiltration systems, where the membrane modules are immersed in tanks or cells. Therefore, we assume that in the specified clause, the term "trains" refers to "cells or tanks" for submerged ultrafiltration systems. Additionally, the number of cells or tanks will be as per the recommendation of the UF vendor.Please confirm.	Tender Conditions Prevails. Tender conditions calls for minimum requirement.
126	TSPS & WwTPs Design / Sizing Criteria Part 5-58	Reuse Facilities: Item/Parameter/Description | Units | WwTP at Channasandra No of Feed Pump/Permeate Pump (Working) | Nos | 4 Capacity of each feed pump / permeate pump | m^3/hr | 125	The tender specifies the number of working feed pumps/permeate pumps as 4 for the Channasandra site. However, the actual number of working pumps may vary based on the UF vendor's designand the type of UF system (submerged/pressurized). Therefore, we request that the number and capacity of feed pumps/permeate pumps be allowed to follow the UF vendor's recommendation.Please confirm.	Tender Conditions Prevails. Tender conditions calls for minimum requirement.
127	TSPS & WwTPs Design / Sizing Criteria Part 5-59	Reuse Facilities: Item/Parameter/Description | Units | WwTP at Channasandra Minimum UF Plant Recovery | % | 95	The maximum recovery achievable through UF systems is approximately 93-94%. Any additional recovery is possible only through the installation of extra UF backwash recovery systems that treat UF backwash waste and make it available for reuse.Since surplus flow is available at the inlet of the UF plant, we request that a minimum recovery of 93% be allowed for the UF plants.Please confirm.	Refer Addendum-1

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<table>
<tr><th>Sr. No.</th><th>Vol.No. / Pg. No.</th><th>Description</th><th>Query</th><th>Reply</th></tr>
<tr><td>128</td><td>TSPS & WwTPs Design / Sizing Criteria Part 5-59</td><td>Reuse Facilities:
<table><tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Channasandra</th></tr><tr><td>Membrane Pore Size</td><td>-</td><td>0.01 – 0.03 microns to remove suspended solids, bacteria and viruses</td></tr></table></td><td>Ultrafiltration membranes typically have a porosity range between 0.01 and 0.07 microns, with 0.04 microns being the most commonly adopted nominal size in the industry.Therefore, we request that a nominal pore size of 0.04 microns for the UF membrane be allowed.Please confirm.</td><td>Refer Addendum-1</td></tr>
<tr><td>129</td><td>TSPS & WwTPsDesign / Sizing CriteriaPart 5-59 & 8.18.16 UltraFiltration System (Submerged/ Pressurized), Part 8-111</td><td>Reuse Facilities: &
<table><tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Channasandra</th></tr><tr><td>Membrane Material (MOC)</td><td>-</td><td>Poly-Vinyli-Dene-Fluoride (PVDF) reinforced with polyester or polypropylene backing layer.</td></tr></table>K. PVDF Membrane with Braided
The membrane fiber features a Braided PVDF membrane formulation cast on polyester support braid.</td><td>PVDF reinforced with polyester is not necessary for submerged ultrafiltration systems, which operate at lower pressures compared to pressurized UF systems.

Therefore, we request permission to provide more advanced,100%PVDFmonolithicmembranesfor the submerged ultrafiltration system. These membranes offer the following advantages:

• Greater efficiency compared to braided PVDF membranes, as the PVDF lay tends to peel off during operation, reducing functionality.
•Longer membrane life span compared to braided PVDF.
Higher reliability.
•Reduced chemical consumption compared to braided PVDF.

Please confirm.</td><td>Refer Addendum-1</td></tr>
<tr><td>130</td><td>TSPS & WwTPs Design / Sizing Criteria Part 5-59</td><td>Reuse Facilities:
<table><tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Channasandra</th></tr><tr><td>Membrane Type</td><td>-</td><td>Submerged (out-to-in) or Pressurized (outside-in or inside-out) hollow fiber membranes, designed to handle peak plant flow conditions.</td></tr></table></td><td>The tender specifies that the ultrafiltration system should be designed to handle peak plant flow conditions. However, as per the tender, the required UF feed pumps will pump water to the ultrafiltration system to generate 10 MLD of permeate flow.Therefore, we assume that peak plant flow conditions are not applicable for the design of the ultrafiltration system.Please confirm.</td><td>Refer Addendum-1</td></tr>
<tr><td>131</td><td>TSPS & WwTPs Design / Sizing Criteria Part 5-59</td><td>Reuse Facilities:
<table><tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Channasandra</th></tr><tr><td>Maximum Membrane Flux rate</td><td>-</td><td>30 LMH</td></tr></table></td><td>The maximum membrane flux specified in the tender, i.e., 30 LMH, is typically applicable for MBR systems that operate under high solids load (>5000 mg/L). For UF systems treating secondary treated wastewater, the solids load is usually below 20 mg/L. In such cases, a lower flux rate is unnecessary and could lead to a significant increase in capital costs without offering substantial benefits to the client.Therefore, we kindly request that the average membrane flux rate be allowed to be ≤ 40 LMH.Please Confirm..</td><td>Tender Conditions Prevails</td></tr>
</table>

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
132	TSPS & WwTPs Design / Sizing Criteria Part 5-59	Reuse Facilities: Item/Parameter/Description | Units | WwTP at Channasandra UF Membrane design load factor (on BOD and TSS) | - | 2	Please confirm that the load factor for UF membrane design refers to the design safety concerning the inlet parameters to the UF system.Additionally, since UF membranes are designed to remove suspended solids, we understand that the design safety or load factor of two shall apply only to the inlet TSS values for the UF system.Please confirm.	Tender Conditions Prevails
133	8.18.16 Ultra Filtration System (Submerged/ Pressurized) Part 8-107	D. Working Principle of Submerged UF Process:After mechanical pretreatment, the wastewater is fed to the membrane tanks where the water is separated from the solids by the SUF membranes. The liquid is typically fed below the submerged membrane modules.	We assume that the bidder is allowed to provide rotary drum screens as a mechanical pre-treatment for the submerged ultrafiltration process.Please confirm.	Tender Conditions Prevails. It is after Disc filtration system only.
134	8.18.16 Ultra Filtration System (Submerged/ Pressurized) Part 8-110	I. Single Header Design • The SUF product consists of bundles of hollow fiber membranes potted only at the lower end of each bundle. The non-potted ends of the fibers (at the top of the bundle) are individually sealed and move freely in the liquid.	The tender specifies that the submerged ultrafiltration system shall have a single header design. However, issues typically associated with double header designs, such as the presence of fibrous material and high MLSS, are not relevant in treated sewage. Double header designs are generally more efficient, providing uniform withdrawal of water from the modules. Therefore, we request approval for the bidder to offer the submerged ultrafiltration header design based on the UF manufacturer's recommendation/design.Please confirm.	Refer Addendum-1.
135	8.18.16 Ultra Filtration System (Submerged/Pressurized) Part 8-113	Technical Particular | Parameters Spare Space for module per train | | 10 %	We understand that for the submerged UF system, the term "train" shall be interpreted as "cell/tank," and a 10% spare space for modules shall be provided per "cell/tank."Please confirm.	Refer Addendum-1.
136	8.18.16 Ultra Filtration System (Submerged/Pressurized) Part 8-113	Technical Particular | Parameters Minimum Operating Life of Membrane | Years | 10	The minimum operating life of membranes varies depending on several factors, including the type of system and vendor, and typically ranges from 5 years for pressurized ultrafiltration systems to 7 years for submerged ultrafiltration systems.Therefore, we request you to allow the bidder to propose a minimum operating life of membranes as 7 years.Please confirm.	Tender Conditions Prevails.
137	Volume -1/3.1.2 (b)(i)	Experience in Key Activities Experience in Key Activities Experience in Execution of WwTPsi. The Tenderer as a sole entity or a Lead Partner and or Partner in a Joint Venture shall have successfully completed, including Design, Procurement, Supply, Installation, Construction, Testing, and Commissioning of all Civil, Mechanical, Electrical, and Instrumentation Works of minimum One (1) No. WwTP of 12 MLD capacity and above or Two (2) Nos.Waste Water Treatment Plants of minimum 6 MLD capacity with Biological Nutrient Removal (BNR) technology of process like , A2O, EA, IFAS, MBBR, SBR, with SCADA Integration, to meet effluent standard as BOD ≤ 10 mg/L, COD ≤ 50 mg/L, TSS ≤ 10 mg/L, TN ≤ 10 mg/L, TP ≤ 1 mg/L and fecal coliform < 100MPN/100ml should be in operation for a period of one year during the last 5 years as on date of Bid submission	Qualification criteria states that the plants must use one of the listed BNR Technologies as stated above. However, we would like to highlight that the plants which wehave executed utilized Membrane Bioreactor (MBR) technology, which is a more advanced and reliable process compared to MBBR, and it fully meets the effluent discharge standards mentioned in the tender & it is finely operational from previous years. A few key advantages of MBR over MBBR include: •Higher effluent quality suitable for reuse applications •Smaller footprint, ideal for space-constrained sites •Elimination of secondary clarifiers due to membrane-based separation •Greater process stability and operational consistency •Better adaptability to stringent regulatory requirements Considering these points, we kindly request you to consider the plant executed using MBR technology as equivalent to those using MBBR technology under the qualification criteria.	Tender Conditions Prevails.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
138	Volume-2 / Section-7, Part 5 -31	Influent Wastewater Characteristics pH — 6.5-7.5 BOD — mg/L — 350 COD — mg/L — 800 TSS — mg/L — 450 VSS — mg/L — 360 TKN — mg/L — 70 NH4-N — mg/L — 45 Total Phosphorus — mg/L — 7	As per referred clause in the tender document, For BOD=350 mg/L, the corresponding COD value is 800 mg/L. The COD/BOD ratio is on the higher side. In normal practice BOD= 250 mg/L and COD= 425 mg/L is considered as per CPHEEO. We presume that there are no ingresses of Industrial effluent in the Sewage and the COD is biodegradable. Kindly Confirm.	The design influent parameters requirement shall be as defined Part 5, Cl.no. 5.20.1, "TSPS & WwTPs Design / Sizing Criteria".
139	Volume-2 / Section-7, Part 5 -31	Influent Wastewater Characteristics COD — mg/L — 800	We presume that there are no ingresses of Industrial effluent in the Sewage and more than 95% of COD is biodegradable and less than 5% of COD is non-biodegradable. Or the treated Effluent COD performance requirements may be relaxed subject to the Contractor proving the presence of non-biodegradable COD in the influent which cannot be treated using the processes provided at the Works Kindly Confirm.	Bidder may consider Non-biodegradable COD as per the bidder design.
140	Volume-1 / Page 14 of 236	Technology provider shall provide the evidence that he has successfully supplied the technology for at least 1 (One) WWTP same as 3.1.2 (b)(i) 3.1.2. (b) (i) Experience in Execution of WwTPs The tenderer as a sole entity or a Lead Partner and or Partner in a Joint Venture shall have successfully completed, including Design, Procurement, Supply, Installation, Construction, Testing, and Commissioning of all Civil, Mechanical, Electrical, and Instrumentation Works of minimum One (1) No. WwTP of 16 MLD capacity and above or Two (2) Nos. of Waste Water Treatment Plants of minimum 8 MLD capacity with Biological Nutrient Removal (BNR) technology of process like , A2O, EA, IFAS, MBBR, SBR, with SCADA Integration, to meet effluent standard as BOD ≤ 10 mg/L, COD ≤ 50 mg/L, TSS ≤ 10 mg/L, TN ≤ 10 mg/L, TP ≤ 1 mg/L and fecal MPN/100 ml and should be in operation for a period of one year during the last 5 years as on date of Bid submission	As per the Tender document, Technology provider shall provide the evidence that he has successfully supplied the technology for at least 1 (One) WWTP same as 3.1.2 (b)(i). We understand that the referred clause has mentioned the effluent quality standards at the outlet of STP and not after the secondary treatment process. Therefore, for the purpose of demonstrating compliance, the Technology Provider supplying the secondary treatment process must ensure that the treated effluent meets the following key parameters at the final outlet, as specified in the clause — excluding fecal coliform: •BOD ≤ 10 mg/L •COD ≤ 50 mg/L •TSS ≤ 10 mg/L •Total Nitrogen (TN) ≤ 10 mg/L •Total Phosphorus (TP) ≤ 1 mg/L Kindly Confirm.	Refer Addendum-1
141	Volume-1 / Page 14 of 236	Technology provider shall provide the evidence that he has successfully supplied the technology for at least 1 (One) WWTP same as 3.1.2 (b)(i)	As per the Tender document, the Technology Provider is required to provide evidence of having successfully supplied the technology for at least one (1) wastewater treatment plant (WWTP) as per Clause 3.1.2(b)(i). We note that the referred clause does not explicitly mention the required capacity of this reference WWTP. We understand that the Technology Provider must demonstrate having successfully supplied the technology for at least one (1) WWTP of 52 MLD capacity in line with Clause 3.1.2(b)(i). Kindly confirm	Refer Addendum-1

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
142	Volume-2 / Section-7, Part 5 -51	N-1 condition: - The Bidder shall provide calculations for operating the WwTP at Design Flow with 1 SBR tank offline for maintenance.	In the previous tender of BWSSB-i.e. CP25 package and 10 MLD STP at Jakkur project which was based on SBR technology, this particular clause had been deleted. We presume that same shall be followed for the present tender also. Kindly confirm.	Tender Conditions Prevails.
143	Volume-2 / Section-7, Part 5 -51	HRT at average flow: 24 Hrs.	HRT is the derived factor based on the selected SBR cycle time and Inlet characteristics of the sewage. We understand that the HRT shall be as per process requirement and as per recommendation of Technology provider to achieve the outlet sewage characteristics as per tender requirement. Kindly Confirm	Tender Conditions Prevails.
144	Volume-2 / Section-7, Part 5 -51	Mixing with Air: For pre-zone or selector zone mixing, dedicated coarse bubble diffuser shall be provided with dedicated flow measurement to each pre-zone or selector zone.	In the previously published tenders by BWSSB :- 10 MLD STP Malathahalli and 10 MLD STP Kempambudhi there was no such criteria for air flow measurement to selector zone. Hence, we presume that the same criteria is not applicable for this project also. Kindly confirm	Tender Conditions Prevails.
145	Volume-2 / Section-7, Part 5 -52	Decanter Weir Length: Minimum decanting flow rate of 1.7 times the average flow shall be considered to calculate the decanter weir length in each basin.	In the previously published tenders by BWSSB :- 10 MLD STP Malathahalli and 10 MLD STP Kempambudhi, This specific criteria was not mentioned. Hence we presume that the same criteria is not applicable for this project also. Kindly confirm.	Tender Conditions Prevails.
146	Volume-2 / Section-7, Part 5 -52	Maximum Decanter Weir loading rate: 120 m3/h/m	In the previous tender of BWSSB-i.e. CP25, CP 26 and CP 27 package based on SBR technology, the Maximum Decanter Weir loading rate was 125 m3/h/m (Addendum-8). We presume that same shall be followed for the present tender also. Kindly confirm.	Tender Conditions Prevails.
147	Volume-2 / Section-7, Part 5 -52	Decanters (For SBR system)	We presume that all decanter specifications shall be acceptable as per the technology providers standard specifications. As bidder has to submit the technology Tie-Up agreement in his technical bid. Kindly Confirm.	Tenderer or Technology supplier can adopt with his own Patent concept of Decanter Equipment, but has to justify such thickness adopted for the steel member with suitable Structural Analysis Report for the fabricated Steel Structure of Decanter Mechanism.
148	Volume-2 / Section-7, Part 8 -98	Decanters (For SBR system) All the withdrawal SS 316L Pipes shall be of thickness not less than Schedule 20S above 200 mm and Schedule below 200 mm shall be of Schedule 40S, and all the pipes shall be of Seamless type only.	We presume that all decanter mechanism is an integral part of Technology components. Also, bidder has to submit the technology Tie-Up agreement in his technical bid. Therefore, pipe schedule(s) mentioned under decanter specifications are not applicable for decanters. Kindly Confirm	Tenderer or Technology supplier can adopt with his own Patent concept of Decanter Equipment, but has to justify such thickness adopted for the steel member with suitable Structural Analysis Report for the fabricated Steel Structure of Decanter Mechanism.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
149	Volume-2 / Section-7, Part 5 -53	Peak Oxygen Demand Factor: 1.3	In the previously published tenders by BWSSB :- 10 MLD STP Malathahalli and 10 MLD STP Kempambudhi there was no criteria for Peak Oxygen Demand Factor. Hence we presume that the same criteria is not applicable for this project also. Kindly Confirm	Tender Conditions Prevails.
150	Volume-2 / Section-7, Part 5 -53	8. Process Air Blowers α: Oxygen Transfer Correction Factor - 0.6 β: Salinity - Surface Tension Correction Factor - 0.95 F: Fouling Factor - 0.8	The given factors in the tender document, Alpha, Beta and Fouling Factor, depend on the diffuser type, MoC, and self-cleaning capacity which can vary within the range given in the latest edition of Metcalf and Eddy. Therefore, we presume that the given factors can be considered as per the latest edition of Metcalf and Eddy to design the aeration system. Kindly Confirm	Tender Conditions Prevails.
151	Volume-2 / Section-7, Part 8 -82 to Part 8 -101	8.18 Aeration system with allied Equipments 8.18.1 Tubular Type Diffusers & 8.18.15.2 Diffuser system for IFAS 8.18.15.3 Type of Diffuser System 8.18.15.4 Diffuser Elements 8.18.15.5 Testing for Diffuser system 8.18.15.6 Air Piping to Diffusers	In the Tender document, two different Diffuser specifications are given as mentioned in referred clause. We understand that the Diffuser specifications given in the Clause 8.18.15.2 to 8.18.15.6 are applicable to the aeration system for all secondary treatment process where diffused aeration is applicable. Kindly Confirm.	Diffuser specification shall be as per Cl.no.8.18.1 only and Cl.no. 8.18.15.2 to 8.18.15.6 stands deleted Refer Addendum-1
152	Volume-2 / Section-7, Part 5 -54	Process Air Blowers for all Treatment Processes Design SOTE per m depth of water (Minimum to be provided and maximum to be used as design basis) – 5.50 %	The SOTE of the latest advanced diffusers are achieving more than that specified in the tender. Kindly allow us to provide the SOTE as per the diffuser manufacturer's design. The letter from the diffuser manufacturer shall be submitted during detailed engineering stage. Kindly Confirm.	Tender Conditions Prevails.
153	Volume-2 / Section-7, Part 8-82	8.18 Fine Bubble tubular Membrane Diffusers 8.18.1 Tubular Type Diffusers (h) The bubble should retain a solid spherical shape. The bubbles produced from the diffuser shall be minimum 0.5 mm.	The perforation and bubble size of diffuser may varies from Manufacturer to Manufacturer with a guarantee for the performance. Kindly request to accept the perforation and bubble size as per Diffuser Manufacturers Design. Kindly Confirm.	Tender Conditions Prevails.
154	Volume-2 / Section-7, Part 8-82	8.18 Fine Bubble tubular Membrane Diffusers 8.18.1 Tubular Type Diffusers ...maximum outer diameter (OD) shall not be more than 90 mm.	Kindly request to accept the outer diameter (OD) as per design of Diffuser Manufacturers as specified in the tender document. As the outer diameter (OD) of diffuser varies from Manufacturer to Manufacturer with a guarantee for the performance. Kindly Confirm.	Tender Conditions Prevails.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
155	Volume-2 / Section-7, Part 8-82	8.18 Fine Bubble tubular Membrane Diffusers 8.18.1 Tubular Type Diffusers (b) The diffuser shall be fine bubble membrane tube type diffuser consisting of a single piece injection-molded polypropylene/uPVC tube surrounded by a membrane sleeve ……	The provided specifications for diffusers are pertaining to a specific vendor. Therefore, we understand that the diffuser specifications of any approved vendor M/s Environmental Dynamics, M/s OTT GMBH, M/s Rehau Polymer, M/s SSI Aeration mentioned in'CONSOLIDATED Mechanical Equipment VENDOR LIST'shall be acceptable. Kindly confirm.	It has been reconfirmed that the listed vendors in approved list are satisfying the Bid Specification requirements. Hence Tender Conditions Prevails.
156	Volume-2 / Section-7, Part 8-82 & Volume-2 / Section-7, Part 5-9	8-18 Fine Bubble Tubular Membrane Diffusers 8.18.1 Tubular Type Diffusers (n) Provide a back-flow prevention device built integrally with the diffuser that prevents backflow into the diffuser and air piping. & Contractor shall provide back flow prevention mechanism / check valve inside each diffuser to prevent intrusion of liquid and/or solids into the diffuser and air piping under normal operating conditions of aeration system.	Many diffuser manufacturers under approved vendor list of the tender provide slits on the membrane which act as a prevention of backflow into the diffuser. These slits automatically get closed when air supply is stopped. We understand that any separate prevention device/mechanism is not required in this case. Also, the same was accepted in CP-25. CP-26 & CP-27 tenders called by BWSSB. Kindly Confirm	Yes confirmed. Diffuser shall be provided with a back flow prevention device built integrally with the diffuser that prevents backflow or Diffuser membrane slits can also act as a prevention of backflow into the diffuser. Diffuser slits automatically get closed when air supply is stopped into the diffuser and air piping. Refer Addendum-1
157	Volume-2 / Section-7, Part 8 - 90	<table><tr><td>Si.no.</td><td>Description</td><td>Material of Construction</td></tr><tr><td>f</td><td>Acoustic enclosure</td><td>Al-Zn coated steel, insulated with glass wool</td></tr></table>	In recent days various MOC of Acoustic closures for Turbo air blowers are available. Kindly allow tenderer to provide acoustic enclosure for Turbo Blower of MOC as per manufacturer's standard. Kindly confirm.	Superior material than specified in the tender can be adopted with justification and without any cost implication to BWSSB.
158	Volume-2 / Section-7, Part 8 - 161	40 Disc Filtration System List of Approved Suppliers: Manufacturer for Disc Filter: M/s Hydro Tech M/s Xylem M/s Estragua M/s Jash Invent M/s Huber M/s Aqua Aerobics M/s Evoqua water Technologies	M/s Yucheon has been accepted as disc filter supplier In the previously published many tenders by BWSSB such as STP packages of CP-25, 26 and 27, 10 MLD STP at Jakkur,10 Komaghatta, 13 MLD Byrathi Kanne. Therefore, we presume that the tenderer can propose M/s. Yucheon Make Fiber Disc filter for this tender. Kindly Confirm	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
159	Volume-2 / Section-7, Part 5 -56	DISC FILTER Design flow per unit: Designed for 100% Peak Flows including recycle flows - Irrespective process	We understand that the Design flow for the Disc filter unit shall be maximum incoming flow to the disc filter unit. In the case of SBR system, FDF unit shall be designed with the average flow or the decant flow whichever is higher. Kindly confirm.	Tender Conditions Prevails.

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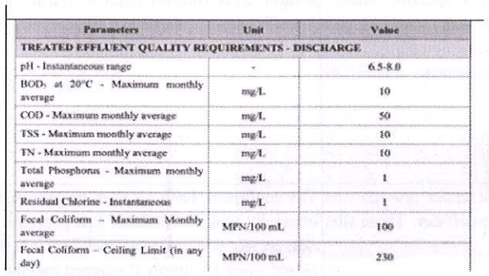
Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
160	Volume-2 / Section-7, Part 1 -9 Volume-2 / Section-7, Part 5-31		As per the tender document the required treated effluent quality requirements such as BOD, COD, TSS, TN & TP can be achievable at the outlet of the biological treatment process like SBR. In such cases there shall be no need of Disc filter to be proposed for achieving the treated effluent quality. Hence we understand that the Disc filter shall be provided as per the process requirement. Kindly confirm.	Tender Conditions Prevails.
161	Volume-2 / Section-7, Part 8 -136	Disc Filter	The provided specifications for Disc Filters are pertaining to a specific vendor and this are compiled by only one or two vendor's mentioned in the approved vendor list. Therefore, we understand that the Disc filter specifications shall be acceptable as per approved vendor. Kindly confirm	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
162	Volume-2 / Section-7, Part 8 - 138	Filter Membrane: Stainless steel screen / Mesh: SS-316L	Polyester filter cloth or SS 316 with 10 microns mounted on a Poly Propylene Glass/ABS frame was mentioned in previous tenders like 10 MLD Komaghatta, 13 MLD BairathiKhanne& CP-25, 26 & 27. Hence, we understand such requirement shall be applicable for this said tender. Kindly Confirm.	Tender Conditions Prevails.
163	Volume-2 / Section-7, Part 8 – 137	….. the automatic valve and suction cleaning pump which shall be	Automatic valves for suction cleaning pump arrangement was not mentioned in previous tenders like 10 MLD Komaghatta, 13 MLD BairathiKhanne& CP-25, 26 & 27. Hence, we understand such requirement shall not be applicable for this said tender. Kindly Confirm.	For automatic Backwash operation this valve is suggested in fully submerged Disc filters, Tenderer can follow alternative arrangement as per vendor recommendation, considering auto operation system of Backwashing based on clogging alarm.
164	Volume-2 / Section-7, Part 8 - 138	Protective Top Cover and Body cover along with frame structure : SS316 (Minimum 4mm for Body cover)	As per tender document we are proposing fully submerged fiber disc filter. This type of filter need not require any kind of covering/shed/RCC roof. Therefore, we presume that fully submerged Fiber Disc Filter without cover shall be acceptable. Kindly confirm	In cl.no. 8.26, Table "Technical Particulars Common for both Partially Submerged or Fully Submerged type Disc Filtration System", Tenderer can consider the specification, based on his design adopted either of two system. RCC structure as defined in the tender document is mandatory for both the system.
165	Volume-2 / Section-7, Part 5 -70 & Part 5-94	DISC Filter building	As per tender document we are proposing fully submerged fiber disc filter. This type of filter need not require any kind of covering/shed/RCC roof. Therefore, we presume that fully submerged Fiber Disc Filter without roof shall be acceptable. Kindly confirm.	Tender Conditions Prevails.

Parameters	Unit	Value
TREATED EFFLUENT QUALITY REQUIREMENTS - DISCHARGE		
pH - Instantaneous range	-	6.5-8.0
BOD_3 at 27°C - Maximum monthly average	mg/L	10
COD - Maximum monthly average	mg/L	50
TSS - Maximum monthly average	mg/L	10
TN - Maximum monthly average	mg/L	10
Total Phosphorus - Maximum monthly average	mg/L	1
Residual Chlorine - Instantaneous	mg/L	1
Fecal Coliform – Maximum Monthly average	MPN/100 mL	100
Fecal Coliform – Ceiling Limit (in any day)	MPN/100 mL	230

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
166	Volume-2 / Section-7, Part 5 -70 & Part 5-94	a)Energy Consumption for TSPS, WwTP with Reuse PCA = [{PCD}*{(0.42*QA/QD)+(0.24*BA/BD)+(0.24*TA/TD)+(0.1*NA/ND)}] ALUM DOSING SYSTEM (FOR ALL TREATMENT PROCESSES)	The said formula for energy consumption shall not be applicable in case the Terminal Sewage Pumping Station as the value is energy consumption value can be arrived on basis sewage quantity pumped and not on pollutant loadings like BOD/TSS/TKN. Therefore, we understand that the formulae provided for determining the energy consumption of ISPS shall be applicable for TSPS. Kindly confirm.	Tender Conditions Prevails.
167	Volume-2 / Section-7, Part 5 -55	ALUM DOSING SYSTEM (FOR ALL TREATMENT PROCESSES)	As stated in the tender an alum dosing system shall be required for chemical phosphorus removal. We presume that if Total Phosphorous ≤ 1 mg/l as mentioned in the tender is achieved biologically i.e. Biological nutrient removal process then Alum Dosing system shall not be required. Therefore, alum dosing system shall be optional and shall be provided if required as per process requirement to achieve Total Phosphorous as ≤ 1 mg/l. Kindly Confirm	Tender Conditions Prevails.
168	Volume-2 / Section-7, Part 5 -14	5.15Hydraulic Design Requirement • Maximum pipe flow velocity shall be no more than 1.0 m/s for all gravity flow ar pump suction lines unless specified otherwise. • Maximum pipe flow velocity shall be no more than 1.5 m/s for all pumpe discharge lines unless specified otherwise. • Calculated normal velocity (at 20°C and 1atm) of air piping shall not be more tha 16 m/s. •For channels, the maximum velocity shall be no more than 1.0 m/s. • For liquids the maximum velocity through gate opening shall be no more than 1 m/s unless specified otherwise.	In the tender document, mentioned Velocities in tender document are on lower side: Following table shows velocities for various services which are used as per good engineering practices, in many STP's. We presume that, above table shall be followed for proposed STPs. Kindly Confirm. Sr. No. | Service | Design Velocity m/s | Limitations 1 | Gravity Lines for Sewage & Water | 0.6 – 1.2 Designed as pipe line flowing full. | Min. Velocity shall not be less than 0.6 m/sec. Max. Velocity up to 1.2 m/sec is allowable at Peak Flow. 2 | Pressure Lines for Sewage & Water | 0.6 – 2.5 | Min. Velocity shall not be less than 0.6 m/sec. Max. Velocity up to 2.5 m/sec is allowable at Peak Flow. 3 | Air (Pressurized Lines) | 18 – 22 | Max. Velocity shall not be more than 25 m/sec in any section. 4 | Scum & Sludge Lines | 0.6 – 1.5 | Irrespective of flow, Diameter shall not be less than 150 mm for Gravity Lines. 5 | Chemical Feed Lines | 0.6 – 1.5 | Irrespective of flow, Diameter shall not less than 20 mm.	Tender Conditions Prevails.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
169	Volume-2 / Section-7, Part 5 -13	While selecting any type of pump and blower, priority shall be given to higher pump/blower efficiency and lower power consumption and shall ensure that pump/blower can operate at high efficiency throughout its service life. At minimum contractor shall ensure efficiencies of pump/blower as listed below: •Minimum efficiency of Submersible Pumps for TSPS shall be 70% •Minimum efficiency of Axial Tubular Pump (MLR) shall be 70% • Minimum efficiency of RAS Pump (Horizontal/Vertical Non-clog solid handlin shall be 65%. • Minimum efficiency of Sludge Pump (Progressive Cavity/Screw pump) shall b 45%. •Minimum efficiency of Rotary Tri-Lobe blower shall be 70% •Minimum efficiency of Centrifugal Turbo blower shall be 90%	The efficiency of the various equipment are mostly depends on the suitable model selection for duty condition and Manufacturer's design. Therefore, kindly accept the efficiency of the various equipment as per design of manufacturer. Kindly Confirm.	Refer Addendum-1
170	Volume-2 / Section-7, Part 3-13 & 3-14	3.16.4 Bid Drawings and Details (a) General and Process. (b) Mechanical (c) Electrical & Instrumentation	Tender specifies vast submission of documents. It is not possible to submit all these documents at bidding stage. We understand that submittals given under the head a) General and Process shall be submitted during the bidding stage. All other documents shall be submitted after award of contract. Kindly confirm.	The Tenderer shall submit all the document specified under the clause 3.16.4 Bid Drawings and Details for (a) General and Process, (b) Mechanical, (c) Electrical & Instrumentation. However, the "To-scale dimensional layout and/or installation drawings" as specified under the clause 3.16.4 (b) Mechanical (i) can be omitted during the bidding stage. However, Tenderer shall provide a undertaking for non-submission.
171	Volume – 4 Drawings	Proposed Plot Plan	Kindly request to provide the proposed plot plan in AutoCAD format.	Refer Addendum-1
172	Volume-2 / Section-7, Part 5 -40 Volume-2 / Section-7, Part 5 -44 Volume-2 / Section-7, Part 5 -49	SECONDARY CLARIFIERS (EA PROCESS) SECONDARY CLARIFIERS (IFAS PROCESS) SECONDARY CLARIFIERS (MBBR PROCESS)	Tender mentions that, bidder shall provide calculations for operating the WwTP at Design Flows with 1 tank/unit/module offline for maintenance. We presume that the same is applicable for secondary clarifiers as well. Kindly Confirm.	Tender Conditions Prevail
173	Volume-2 / Section-7, Part 8 –115	8.20 Primary/Secondary Clarifiers	We understand that all wetted part of Primary/Secondary Clarifiers shall be of SS 316L considering the 10 years of operation and maintenance. Kindly Confirm.	Superior material than specified in the tender can be adopted with justification and without any cost implication to BWSSB.
174	Volume-2 / Section-7, Part 5- 9	The floors of all liquid-holding structures shall be appropriately sloped and trenches and drain sumps shall be provided at the bottoms of such slopes to facilitate complete drainage of liquid……	Generally, slope is not required in aeration basin. RAS/SAS pump pit shall be provided in aeration basins for sludge collection and pumping. If slope is provided, it will affect the diffuser grid installation, alignment and performance. Kindly Confirm.	The slope requirement shall be as per the tender requirement. And bidder can propose very mild slope may be of 1:5000.
175	Volume-2 / Section-7, Part 5- 9	For liquid-holding structures, the drain piping and fittings shall be sized such that the entire structure can be drained by gravity in no more than eight (8) hours.	We understand that this requirement is not applicable to aeration tank. Kindly Confirm.	Tender Conditions Prevail
176	Volume-2 / Section-7, Part 5- 9	The Plant Drain Pumping Station, Plant Drain Pumps, and other related equipment and controls shall be designed and sized to allow draining of the structure with the largest volume from full to empty within eight (8) hours.	We understand that this requirement is not applicable to aeration tank.	Tender Conditions Prevail

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
177	General	MOC Of Pipe line for Various Applications	MOC for pipe line are missing in the tender document. We request you to allow us to provide following MoCs for Various applications: Kindly Confirm. Sr. No. / Service / Type of Flow / MOC 1 / Waste Water / Sludge / Gravity / RCC NP-3 Class 2 / Waste Water / Sludge / Gravity/Pressurized / CI Class "LA" / DI K-9 3 / Service Water / Gravity / Pressurized / GI "C" Class 4 / Air Lines: Headers, Vertical Down-comers / Pressurized / Above Water: MS Sand/Shot Blasted, Epoxy Painted; Under Water: SS 304 5a / Air Grid Piping: Aeration Zone / Pressurized / UPVC Schedule 40 5b / Air Grid Piping: Selector Zone / Pressurized / SS 304 6 / Chemicals / Gravity / Pressurized / SS 304 except Chlorine & FeCl3 7 / Chlorine & FeCl3 / Gravity / Pressurized / Schedule 40 UPVC	Tender Conditions Prevail
178	Volume-2 / Section-7, Part7 -54	PLC shall be provided as a Hot Stand-by Controller	We understand that redundant PLC has been specified to avoid long interruption in the plant operation & controls. Alternatively, it can also be achieved by providing normal non-redundant PLC along with spares such as pre-programmed PLC hardware like CPU, Power supply etc. In the unlikely event of PLC system failure, the same can be made functional within 1-2 hrs with the help of the spares. Kindly confirm that we can consider non-redundant PLC with required spares.	Not Acceptable.The Plant master controller station shall be provided with two identical central processors configured such that they operate in Hot-Standby mode.The system shall be designed and implemented such that when the Main processor fails, the Standby one shall automatically take over. The changeover shall be seamless, smooth and without any time delay and this Hot-Standby feature is to be proposed for WwTP SCADA control room as per Clause No.13.27, Part-13, Volume-2 of the Tender Document. Hence, the Tender Condition Prevails.
179	Volume 2/Section 7, Part 7-54 & part 7-56	7.13.1 Redundant SCADA Dual redundant SCADA system and Historian software Operator work Station, loaded with Runtime SCADA Server SCADA Operator work station with licensed SCADA software SCADA Engineering work station with licensed SCADA software	Operator available in STP plant are not skilled to do programming of SCADA system and it is dangerous to do changes in SCADA with them. For this Expert programmer is required, who always carry required licenses with them. Hence, we request you to consider runtime software for SCADA.	Not Acceptable. The PLC cum SCADA softwares capable of modification on Control System Logic updation cum SCADA Screen Graphics during run time without any impact on WwTP Process. The Control Logic & SCADA Graphics screens tested & witnessed during Factory Acceptance Test (FAT) at authorized Original Equipment Manufacturer's (as per approved OEMs list in Part-13) workshop and PLC Logics cum SCADA Graphics Screens in line with approved Plant Operational control philosophy prior to dispatch to site as per Clause No. 14.19.B, Part-14 of tender document. Hence, the critical logic updations are not allowed at site only minor modifications shall be updated through authorized licensed programmer of original equipment manufacturer's for which necessary training provided by authorized licensed programmer to the O&M team as per Clause no.15.1.6, Part-15 in tender document. The SCADA shall be a fully dual redundant microprocessor based computer system such that reliable and fully automatic plant control can be achieved by using Hot-Standby PLC system. The SCADA software functions are to be complied as per clause nos.13.27,13.34 & 13.35, Part-13 in Volume-2 of the tender document. Hence, the Tender Conditions Prevails.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
180	Volume-2 / Section-7, Part 7 -56	Historian Software	Alarm & trends are store in computer-based SCADA with inbuilt capability SQL server, hence separate system is not required to store data. We request you to consider PLC & SCADA system without Historian.	Not Acceptable. In addition with Redundant SCADA system,the Historian software system shall be designed and configured to store data for a minimum of seven years data retrieval as per Clause No.7.13.4, Part-7 in Volume-2 of the tender document. Hence, the Tender Conditions Prevails.
181	SECTION 2, INSTRUCTIONS TO TENDERERS (ITT) Page 15 of 236	3.1.2. (b)(ii) Construction Experience- Reuse Plant (with Tertiary Level)--- -	The technology proposed for tertiary treatment is ultrafiltration process. Ultrafiltration system is the most critical aspect of the tertiary treatment plant as the system guarantee is dependent upon the UF design and membrane technology . Hence, it shall be mandatory to tie-up with membrane supplier as per the following experience criteria :- "Bidder must tie-up with the ultra-filtration membrane supplier or its authorized distributor for Ultrafiltration Technology and shall submit Technology Tie-up Agreement as a part of their technical bid. The membrane supplier or its authorized distributor shall have experience of providing proposed ultrafiltration system for at least One (1) TTP of min. 10 MLD capacity (Net output) in India for any State/Central Government organizations /ULB's which is working satisfactorily for at least two years as on date of calling of tender. Performance Certificate for work should be issued by the end user, duly certified by officer not below the rank of Executive Engineer should be enclosed." Kindly confirm.	Tender Conditions Prevails.
182	SECTION 2, INSTRUCTIONS TO TENDERERS (ITT) Page 15 of 236	3.1.2. (b)(ii) Construction Experience- Reuse Plant (with Tertiary Level) The Reuse Plant (with Tertiary Treatment) have to meet following criteria for the treated effluent Parameter / Unit / Specified Maximum Concentration Turbidity / NTU / < 2 TDS / mg/l / < 1000 TN / mg/l / < 5 BOD / mg/l / < 5 COD / mg/l / < 30 TP / mg/l / < 1 Fecal Coliform / mg/l / NIL	The technology proposed for tertiary treatment is ultrafiltration process. As per tender, the bidder needs to have experience in Reuse Plants with the total Nitrogen Guarantee of < 5 mg/L . However in reuse plants using treated sewage, TN guarantee of < 5 mg/L cannot be guaranteed after Ultra-Filtration Systems ; since total nitrogen removal in Ultrafiltration Systems will be incidental to the removal of Suspended solids. Hence we request you to allow TN guarantee at outlet of Tertiary Treatment Plant as < 10 mg/L or As Arising for experience criteria. Kindly Confirm	Refer Addendum-1

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<table>
<tr><th>Sr. No.</th><th>Vol.No. / Pg. No.</th><th>Description</th><th>Query</th><th>Reply</th></tr>
<tr><td>183</td><td>SECTION 2, INSTRUCTIONS TO TENDERERS (ITT)

Page 15 of 236</td><td>3.1.2. (b)(ii)
Construction Experience- Reuse Plant (with Tertiary Level)

The Reuse Plant (with Tertiary Treatment) have to meet following criteria for the treated effluent
for the treated effluent
<table>
<tr><th>Parameter</th><th>Unit</th><th>Specified Maximum Concentration</th></tr>
<tr><td>Turbidity</td><td>NTU</td><td>< 2</td></tr>
<tr><td>TDS</td><td>mg/l</td><td>< 1000</td></tr>
<tr><td>TN</td><td>mg/l</td><td>< 5</td></tr>
<tr><td>BOD</td><td>mg/l</td><td>< 5</td></tr>
<tr><td>COD</td><td>mg/l</td><td>< 30</td></tr>
<tr><td>TP</td><td>mg/l</td><td>< 1</td></tr>
<tr><td>Fecal Coliform</td><td>mg/l</td><td>NIL</td></tr>
</table></td><td>As per tender, the bidder needs to have experience in Reuse Plants with the TDS Guarantee of < 1000 mg/L . TDS guarantee is provided in reuse plants having RO treatment systems. Since the technology proposed for tertiary treatment for this tender is ultrafiltration process which cannot remove TDS, kindly delete the experience criteria for TDS or allow TDS values as “As Arising”.

Kindly Confirm.</td><td>Refer Addendum-1</td></tr>
<tr><td>184</td><td>TSPS &WwTPs Design / Sizing Criteria

Part 5-32

&

Part 5-59</td><td>TREATED EFFLUENT QUALITY REQUIREMENTS FOR REUSE (APPLICABLE AS SPECIFIED)
<table>
<tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Channasandra</th></tr>
<tr><td>TN</td><td>mg/l</td><td>< 5</td></tr>
</table>
&
Reuse Facilities:
<table>
<tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Channasandra</th></tr>
<tr><td>Membrane Pore Size</td><td>-</td><td>0.01 – 0.03 microns to remove suspended solids, bacteria and viruses</td></tr>
</table></td><td>The technology proposed for tertiary treatment is ultrafiltration process as per tender. Ultrafiltration membranes are designed to remove suspended solids, bacteria and viruses ; also mentioned in Part 5-59. Hence Nitrogen removal in Ultrafiltration Systems will be incidental to the removal of Suspended solids and cannot be guaranteed.

Hence we request you to allow Total Nitrogen Removal guarantee at outlet of Tertiary Treatment Plant after Ultrafiltration as < 10 mg/L or As Arising .

Kindly Confirm.</td><td>The design effluent quality requirement for Reuse shall be as defined in the tender document.</td></tr>
<tr><td>185</td><td>TSPS &WwTPs Design / Sizing Criteria

Part 5-32

&

Part 5-59</td><td>TREATED EFFLUENT QUALITY REQUIREMENTS FOR REUSE (APPLICABLE AS SPECIFIED)
<table>
<tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Channasandra</th></tr>
<tr><td>TDS</td><td>mg/l</td><td>< 1000</td></tr>
</table>
&
Reuse Facilities:
<table>
<tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Channasandra</th></tr>
<tr><td>Membrane Pore Size</td><td>-</td><td>0.01 – 0.03 microns to remove suspended solids, bacteria and viruses</td></tr>
</table></td><td>The technology proposed for tertiary treatment is ultrafiltration process as per tender. Ultrafiltration membranes are designed to remove suspended solids, bacteria and viruses ; also mentioned in Part 5-59. Hence the incoming TDS shall pass unobstructed through the Ultrafiltration membrane. TDS outlet of <1000 mg/l can be guaranteed as long as the incoming TDS to Ultrafiltration Unit is < 1000 mg/L.</td><td>Tender Conditions Prevails.
TDS at outlet of <1000 mg/L can be guaranteed as long as the influent sewage TDS is < 1000 mg/L.</td></tr>
</table>

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NAME OF PROJECT : DESIGN, ENGINEERING, CONSTRUCTION AND COMMISSIONING OF WASTEWATER TREATMENT PLANTS WITH TERTIARY TREATMENT FACILITY, SOLAR PANELS ALONG WITH OPERATION & MAINTENANCE THEREOF FOR TEN YEARS [WORKS - A] AND PROCUREMENT AND CONSTRUCTION OF RISING MAIN, MAIN SEWERS AND LATERALS INCLUDING MACHINE HOLES AND LIFT SEWAGE PUMPING STATIONS [WORKS – B] HYBRID MODE FOR MAHADEVAPURA ZONE IN 110 VILLAGE AREAS (Phase II) UNDER KARNATAKA WATER SECURITY AND DISASTER RESILIENCE PROGRAM (KWSDRP) – (Contract Package No. BWSSB CE-P/KWSDRP/WBS-V)

Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
186	TSPS &WwTPs Design / Sizing Criteria Part 5-58	Reuse Facilities: Item/Parameter/Description | Units | WwTP at Channasandra Reuse Flow | MLD | 10	We Assume that Reuse Flow means flow at outlet of Ultrafiltration Plant (Permeate Flow). Kindly Confirm.	Refer Addendum-1
187	TSPS &WwTPs Design / Sizing Criteria Part 5-58	Reuse Facilities: Item/Parameter/Description | Units | WwTP at Channasandra No of Membrane Trains | Nos | 5	The terminology of membrane "trains" is applicable to Pressurised ultrafiltration systems and not to Submerged ultrafiltration systems; since the membrane modules are immersed in tanks or cells. Hence we assume that trains mentioned in the specified clause shall refer to "cells or tanks" for Submerged ultrafiltration systems . Also, the number of tanks or cells shall be as per the recommendation of UF vendor. Kindly Confirm.	Tender Conditions Prevails
188	TSPS &WwTPs Design / Sizing Criteria Part 5-58	Reuse Facilities: Item/Parameter/Description | Units | WwTP at Channasandra No of Feed Pump/Permeate Pump (Working) | Nos | 4 Capacity of each feed pump / permeate pump | m^3/hr | 125	The tender specifies number of Working Feed Pumps/Permeate Pump to be 4 Nos. The Number of Working Pumps can be more or less as per UF vendor design and type of UF – submerged /pressurised . Hence please allow the number and capacity of Feed Pump/Permeate Pump to be as per UF vendor recommendation.	Tender Conditions Prevails
189	TSPS &WwTPs Design / Sizing Criteria Part 5-59	Reuse Facilities: Item/Parameter/Description | Units | WwTP at Channasandra Minimum UF Plant Recovery | % | 95	Maximum Recovery possible through UF systems is ~ 93-94 %. Extra Recovery is achieved only through additional UF backwash recovery systems that will treat the UF Backwash Waste and make it available for reuse. Since surplus flow is available at the inlet of UF plant, we request you to allow minimum recovery of 93 % for UF plants. Kindly Confirm.	Refer Addendum-1
190	TSPS &WwTPs Design / Sizing Criteria Part 5-59	Reuse Facilities: Item/Parameter/Description | Units | WwTP at Channasandra Membrane Pore Size | - | 0.01 – 0.03 microns to remove suspended solids, bacteria and viruses	Ultrafiltration Porosity ranges from 0.01 to 0.07 microns with most of the industry adopting for 0.04 microns as the nominal size. Therefore, we request you to allow 0.04 microns nominal pore size for UF membrane . Kindly confirm.	Refer Addendum-1

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
191	TSPS &WwTPs Design / Sizing Criteria Part 5-59	Reuse Facilities: Item/Parameter/Description | Units | WwTP at Channasandra Membrane Material (MOC) | - | Poly-Vinyli-Dene-Fluoride (PVDF) reinforced with polyester or polypropylene backing layer. & K. PVDF Membrane with Braided The membrane fiber features a Braided PVDF membrane formulation cast on polyester support braid.	PVDF Reinforced with polyester is not required for submerged ultrafiltration systems that operate on lower pressures than Pressurised UF systems. Hence please allow the bidder to provide more superior monolithic membranes made up of 100 % PVDF for submerged ultrafiltration system that have the following advantages □ More Efficient than braided PVDF membranes as the PVDF layer tends to pe off during operation leading to loss of functionality □Longer Membrane Life over braided-PVDF membrane □More Reliable □Lesser Chemical Consumption as compared to braided PVDF Kindly Confirm.	Refer Addendum-1
192	TSPS &WwTPs Design / Sizing Criteria Part 5-59	Reuse Facilities: Item/Parameter/Description | Units | WwTP at Channasandra Membrane Type | - | Submerged (out-to-in) or Pressurized (outside-in or inside-out) hollow fiber membranes, designed to handle peak plant flow conditions.	The tender specifies that the ultrafiltration system needs to be designed to handle peak plant flow conditions. However as per tender, UF feed pumps of required capacity shall pump water to the ultra-filtration system in order to generate 10 MLD of permeate flow. Hence we assume that peak plant flow conditions are not applicable for design of ultrafiltration system. Kindly Confirm.	Refer Addendum-1
193	TSPS &WwTPs Design / Sizing Criteria Part 5-59	Reuse Facilities: Item/Parameter/Description | Units | WwTP at Channasandra Maximum Membrane Flux rate | - | 30 LMH	The Maximum membrane flux mentioned in tender i.e. 30 LMH is applicable for MBR systems that operate under high solids load (>5000 mg/L) For UF systems that treat secondary treated waste water the solids load will rarely exceed 20 mg/L . In such a case , lower flux is not required and will result in substantial increase in capital cost without any significant benefit to the client. Hence we request you to allow Average Membrane Flux rate to be ≤ 40 LMH. Kindly Confirm.	Tender Conditions Prevails.
194	TSPS &WwTPs Design / Sizing Criteria Part 5-59	Reuse Facilities: Item/Parameter/Description | Units | WwTP at Channasandra UF Membrane design load factor (on BOD and TSS) | - | 2	Kindly Confirm that load factor for UF membrane design refers to design safety on inlet parameters to UF system. Also, since UF membranes are designed for suspended solids removal, the design safety or load factor of two shall only be applicable on inlet TSS values to UF System. Kindly Confirm.	Tender Conditions Prevails.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
195	8.18.16 Ultra Filtration System (Submerged/ Pressurized) Part 8-107	D. Working Principle of Submerged UF Process: After mechanical pretreatment, the wastewater is fed to the membrane tanks where the water is separated from the solids by the SUF membranes. The liquid is typically fed below the submerged membrane modules.	We assume that bidder can provide rotary drum screens as mechanical pre-treatment for submerged ultrafiltration process. Kindly Confirm.	Tender Conditions Prevails. It is after Disc filtration system only.
196	8.18.16 Ultra Filtration System (Submerged/ Pressurized) Part 8-110	III.Single Header Design • The SUF product consists of bundles of hollow fiber membranes potted only at the lower end of each bundle. The non-potted ends of the fibers (at the top of the bundle) are individually sealed and move freely in the liquid.	The tender specifies that the submerged ultrafiltration system shall have single header design. However the problems associated with double header design are only observed in MBR systems due to the presence of fibrous material and high amount of MLSS in MBR tanks. Both of the issues are not present in treated sewage. Double header designs are more efficient since it allows for uniform withdrawal of water from the modules. Hence please allow the bidder to offer submerged ultrafiltration header design as per the UF manufacturer recommendation / design. Kindly Confirm.	Refer Addendum-1.
197	8.18.16 Ultra Filtration System (Submerged/ Pressurized) Part 8-113	<table><tr><td>Technical Particular</td><td colspan="2">Parameters</td></tr><tr><td>Spare Space for module per train</td><td></td><td>10 %</td></tr></table>	We understand that for submerged UF system “train” shall refer to "cell/tank” and 10 % spare space for module shall be provided per “cell/tank”. Kindly confirm.	Refer Addendum-1
198	8.18.16 Ultra Filtration System (Submerged/ Pressurized) Part 8-113	<table><tr><td>Technical Particular</td><td colspan="2">Parameters</td></tr><tr><td>Minimum Operating Life of Membrane</td><td>Years</td><td>10</td></tr></table>	The minimum operating life of membranes depends upon various factors , type of system , vendor etc. and typically ranges from 5 years for Pressurised Ultrafiltration system to 7 years for submerged ultrafiltration system. Hence we request you to allow the bidder to provide Minimum Operating Life of Membrane as 7 years. Kindly Confirm	Tender Conditions Prevails.
199	Vol-I &SECTION 2: INSTRUCTIONS TO TENDERERS (ITT)	The tenderer as a sole entity or a Lead Partner and or Partner in a Joint Venture shall havesuccessfully completed, including Design, Procurement, Supply, Installation, Construction,Testing, and Commissioning of all Civil, Mechanical, Electrical, and InstrumentationWorks of minimum One (1) No. WwTP of 16 MLD capacity and above or Two (2) Nos. ofWaste water Treatment Plants of minimum 08 MLD capacity with Biological NutrientRemoval (BNR) technology of process like , A2O, EA, IFAS, MBBR, SBR, with SCADAIntegration, to meet effluent standard as BOD ≤ 10 mg/L, COD ≤ 50 mg/L, TSS ≤ 10 mg/L, TN ≤ 10 mg/L, TP ≤ 1 mg/L and fecal coliform<100MPN/100ml and should be inoperation for a period of one year during the last 5 years as on date of Bid submission.	As the tender inviting authority asked this qualifying requirement in last 5 financial years we are requesting to kindly consider the same in last 7 years	Not Acceptable. Tender Conditions Prevails.
200		Request to add Helical Hybrid Blowers in addition to Turbo Blowers & conventional Tri /Twin Lobe Blowers for all ongoing 9 projects of BWSSB KWSDRP WBS I to WBS V		Not Acceptable. Tender Conditions Prevails.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
201	Qualification of the Tenderer: 3.1.1 General Construction Experience: & 3.1.2 Particular Construction Experience	General & Technical Qualification of Tenderer required in last 05 years.	We kindly request you to consider General & Technical Qualification in Last 07 years. As in all other government and semi government organization last 07 years is allowed for similar type of major projects	Not Acceptable. Tender Conditions Prevails.
202	3.1.2 Particular Construction Experience	(i) Experience in Execution of WwTPs i. The Tenderer as a sole entity or a lead partner and or partner in a joint venture shall have successfully completed, including Design, Procurement, Supply, Installation, Construction, Testing and Commissioning of all Civil, Mechanical, Electrical and Instrumentation works of minimum One (1) No. WwTP of 12 MLD capacity and above or Two (2) Nos. Waste Water Treatment Plants of minimum 6 MLD capacity with Biological Nutrient Removal (BNR) technology of process like A2O, EA, IFAS, MBBR, SBR with SCADA Integration to meet effluent standard as BOD < 10 mg/L, COD < 50 mg/L, TSS < 10 mg/L, TN < 10 mg/L, TP < 1 mg/L and fecal coliform < 100MPN/100ml should be in operation for a period of one year during the last 5 years as on date of Bid submission	As per the NGT norms the Total Suspended Solid (TSS) value should be TSS < 20 mg/L, hence we kindly request to consider TSS < 20 mg/L instead of TSS < 10 mg/L (In-support of this we are accompanying order copy of the National Green Tribunal Principal Bench, New Delhi date of hearing 30.04.2019)	Refer Addendum-1
203	Vol II, 5.19.1 for Works-A	pH - 6.5-7.5 BOD- 350 mg/l COD-800 mg/l TSS-450 mg/l VSS-360 mg/l TKN-70 mg/l NH4-N- 45 mg/l Total Phosphorous- 7 mg/l	The influent parameters which are mentioned are not as per CPHEEO. Pl confirm the values that to be considered for design for indvidual STP.	Tender Conditions Prevails.
204	Vol II, 1.3 Components List for Works-A,		Is the provision of a Disc Cloth Filter, Ultrafiltration (UF) system, and Odour Control Unit mandatory for every individual STP?	Tender Conditions Prevails. The requirement of a Disc Filter, Ultrafiltration (UF) system, and Odour Control Unit for respective WwTPs shall be as defined in the tender document.
205	Vol II, 1.3 Components List for Works-A,	EA Process, or IFAS Process, or MBBR Process, or SBR Process, incorporating biological nitrification, de-nitrification, and phosphorus removal. All these process options shall be followed by Disc filters, Chlorine Disinfection and Mechanical Sludge Dewatering. As defined.	UF system is not mentioned here. Pls confirm the scope of UF.	Yes confirmed UF Treatment system is already mentioned in this Tender package. Tender Conditions Prevails.
206	Vol II, 5.14.6 Tanker Filling Station	Contractor shall provide the facilities for tanker filling by installing dedicated "treated water transfer pumps" as specified in Paragraph 5.19.	Is Tanker Filling Station required at every STP?	Tender Conditions Prevails. Tanker filling station is required for each WwTP.
207		Further the WwTP locations (refer Paragraph 5.19.) where the reuse facilities are not specified, then a dedicated ultrafiltration unit with disinfection facilities shall be installed for the tanker filling station of the WwTP (Capacity shall be same as treated water transfer pumps) to ensure the treated water meets all the time stringent re-use standards and non-detectable fecal coliform levels before being loaded into the tankers. For capacity of treated water transfer pumps refer Paragraph 5.19.	We presume that UF treated water would be used in Filling Stations.	Tender Conditions Prevails. The requirement shall be as defined in the Tender document.
208	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 10 for Works-A		Kindly allow Sub Surface Submersible mixers make Euroteck for Anaerobic &Anoxic tanks for easy Operation & Maintenance. Please Confirm for Individual STP	Not Acceptable, Tender Condition Prevail.
209	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 12 for Works-A		Kindly allow Sub Surface Submersible mixers make Euroteck for Anaerobic &Anoxic tanks for easy Operation & Maintenance. Please Confirm for Individual STP	Not Acceptable, Tender Condition Prevail.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
210	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 22 for Works-A		Kindly include EKOTON makefor the Fine Bubble (LDPE) Diffusers in the approved make list. Please Confirm for indvidual STP.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
211	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 24 for Works-A		Kindly include Euroteck/EKOTON makefor the Mechanical screens (bar type) in the approved make list. Please confirm for individual STP.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
212	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 26 for Works-A		Kindly include Euroteck/EKOTON makefor the Mechanical screens (bar type) in the approved make list. Please confirm for individual STP.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
213	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 40 for Works-A		Kindly include Euroteck/MITA make for the Disc Filters in the approved make list. Please Confirm for individual STP.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
214	Vol II, 8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment Sno. 5 for Works-A		Kindly include Screw Press/ Belt Filter Press for Dewatering of sludge Euroteck/Ekoton Makewhich consumes less power. Please Confirm for Individual STP	Not Acceptable, Tender Condition Prevail.
215	General		Kindly include Sub Surface Aerators in Aeration Zone. Aerators are much more energy efficient and Operation & Maintenance is easy compared to Diffused Aeration. Please Confirm. Further we request to add AIRE-O2 make for the Sub Surface Aerators in the approved make under Approved make list Sub Surface Aerator as an additional item.	Tubular type Air Diffuser system is only allowed, other type of Diffuser for Aeration zone is Not Acceptable, Tender Conditions Prevails.
216	General		Kindly include Integrity Municipal Systems (IMS)- I-BOx® Make for Odor control Unit. Please confirm for individual STP.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
217	General		Request you to include helical hybrid blowers which are energy efficient and high speed blower very well suited in the aeration	Not Acceptable. Tender Conditions Prevails.
218	Volume 1 / A. GENERAL, Pg. 23	Earnest Money Deposit (EMD) - The Tenderer shall furnish, as part of his tender, earnest money deposit in the amount as shown in column 5 of the Table of IFT for this particular work. This earnest money deposit shall be in favour of Chairman, BWSSB through KPPP, payable at BANGALORE from any Nationalised / Scheduled Indian banks	We request you to please allow EMD in the form of Bank Guarantee instead of Online payment. Kindly Confirm	Tender Conditions Prevails.
219	Volume 2 / Section 7 Part - 1, Pg. 7	A RCC Precast compound wall shall be constructed for a length of not less than 100 m.	We kindly request to provide the typical drawing of compound wall for estimation purpose.	please refer cl 1.28, volume 2, section 7 and Sketch 1 &2 of part11.
220	Volume 2 / Section 7 Part - 11, Pg. 24	All roads shall be designed and constructed as per the specifications and as per site requirements. Bidder shall provide minimum 3.5 m wide internal roads with 1.50m shoulder on one side, which shall be utilised for future expansion of the internal road and 5.0 m wide approach road shall be provided until WwTP Entry gate from the nearby Main Road or Highway. 1.5 m shoulder on both sides of the road shall be provided as per site requirement and as directed.	Request you to provide the section of road.	Please refer cl 1.23, volume 2, section 7 of part11 and chapter 5 of part10.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
221	Volume 2 / Section 7 Part - 10, Pg. 23	Earthwork for high embankment : In the case of high embankments, the Contractor shall normally use the material from the specified borrow area. In case he desires to use different material for his own convenience, he shall have to carry out necessary soil investigations and redesign the high embankment at his own cost. The Contractor shall then furnish the soil test data and design of high embankment for approval of the Engineer, who reserve the right to accept or reject it.	Request to provide the soil investigation report of proposed site to decide the foundation depth of civil structures for estimation purpose.	For Channasandra WwTP, Pile foundations is required for all major structures. For minor structures, soil stabilisation using geotextile for the top 1-1.5m may be considered as 6-7 T/sqm minimum. For piling minimum 450mm dia pile diameter for a minimum 15m length and 60-75 Ton Axial capacity may be considered. Minimum requirements at the site are mentioned in Cl 1.6 of part 1 in volume 2, section 7. However, the tenderers are requested to make their individual site visit and bid as per the actual site requirements. Also please refer to cl 1.14 & 1.15 of part 11, volume 2 section 7, Maximum safe bearing capacity and pile capacity of soil strata shall be taken as determined by the Bidder through his own independent investigations. However Tenderer is responsible for the details considered in his design and estimation for Tendering purpose. No claim in this regard will be considered during execution phase.
222	Volume 2 / Section 7 Part - 1, Pg.4	All preparatory work including clearing, levelling of site, site grading, formation of Finished Ground Level (FGL), construction of internal roads, all around compound wall etc., excavation, dewatering as required and disposal of all surplus earth to a suitable location as specified/directed by Engineer	Request to specify the distance of disposal of surplus excavated material/unserviceable material from proposed plot site.	The tenderers are requested to make individual site visit and bid as per the actual site requirements.
223	General	Site clearance work	We request that all site clearance work including removal of debris, existing strcuture (if any) , any etxra excavation and dewatering work shall be considered as a separate item and paid additonally as this scope is typically variable and not clearly quantititable at tender stage.	Since this is a turnkey project for WwTP and ISPS plants under Works-A, the tenderer is requested to quote accordingly.
224	Volume 2 / Section 7 Part - 5, Pg. 118-121	TSPS Bar screen & Coarse Screen & WWTP fine screen Unit	We kindly request you to allow bidder to use Screen Unit MOC SS304 instead of SS316L	Tender Condition Prevails.
225	Volume 2 / Section 7 Part - 5, Pg. 122	Grit Mechanism	We kindly request you to allow bidder to use Detritus type Grit Mechanism instead of vortex grit mechainsm.	Tender Condition Prevails.
226	Volume 2 / Section 7 Part - 5, Pg. 122	Grit Mechanism	We kindly request you to allow bidder to use Screen Unit MOC SS304 instead of SS316L	Tender Condition Prevails.
227	Volume 2 / Section 7 Part - 8, Pg. 369	8.9.14 Screw Conveyor with compactorTechnical specifications of Screening Conveyor	We kindly request you to allow bidder to use Belt Conveyor instead of screw conveyor for conveying the floating debris.	Tender Conditions Prevails.
228	Volume 2 / Section 7 Part - 8, Pg. 398	7. Odour Control system with Odour enclosure for the complete system connected toCOMPACT Pre-Treatment System (COMBI Unit)A. Dual Stage Odour Control System	We understand that bidder to provide odour control system for pretreatment system only of WWTP please confirm.	Yes, confirmed. Odour Control system shall be adopted in Combi unit Pre-treatment system. Tender Conditions Prevails.
229	Volume 2 / Section 7 Part - 8, Pg. 409	8.18.3 Air Header and Drop legs(a) Header and drop legs shall be constructed of 316 stainless steel.	We kindly request you to allow bidder to use Air header MOC - MS epoxy coated instead of SS316 & Drop legs MOC - SS304 instead of SS316	Tender Conditions Prevails.
230	Volume 2 / Section 7 Part - 8, Pg. 446	8.23 Conveyor System(a) For the disposal of sludge a common motor driven endless belt conveyor shall be provided.The conveyor shall be designed in accordance with IS 11592 or equivalent. The conveyor andchutes shall be suitable for handling occasional heavy objects which will cause shock loads.	We understand that the bidder is required to provide a belt conveyor for sludge disposal at the outlet of the sludge dewatering unit. However, as per standard practice, sludge is typically collected directly in a sludge collection trolley placed on the ground below the dewatering unit outlet. soin that case there is no need of a belt conveyor for sludge disposal, kindly confirm the same	Tender Conditions Prevails.
231	Volume 2 / Section 7 Part - 8, Pg. 447	8.38 Approved Vendor/Manufacturer/Make List-Mechanical Equipment	We kindly request you to allow following make for mechanical equipments1. Submersible Pump - Aqua Pump2. Submersible Mixer - Jash Invent	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.

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<table>
<tr><th>Sr. No.</th><th>Vol.No. / Pg. No.</th><th>Description</th><th>Query</th><th>Reply</th></tr>
<tr><td>232</td><td>General</td><td>Process Air Blower for all treatment Process</td><td>We kindly request you to allow bidder to use Energy efficient super Helical Hybrid Blowers as it is Positive Displacement Blower has cutting edge technology, next generation, innovative design, unmatched performance, supply as Integrated package that comprises of High Efficient Helical Blowers, high efficiency IE3 Electric motors of reputed makes – ABB/Siemens/CGL/BBL makes. Complete package has designed to sustain with Indian environment conditions , for long service life around 25 years, subject to preventing maintenance, so complete package unit is reliable, efficient & proven over long span for low operation cost & life cycle cost.</td><td>Not Acceptable. Tender Conditions Prevails.</td></tr>
<tr><td>233</td><td>Volume 2 Section 7/15.20.1, Pg. 136</td><td>HRT of SBR basin average flow = 24 Hrs</td><td>The HRT of SBR basin shall be as per design of technology provider or as aper the range mentioned in CPHEEO for SBR.Please confirm</td><td>Tender condition Prevails.</td></tr>
<tr><td>234</td><td>Volume 2 Section 7/15.20.1, Pg. 142/143</td><td>CCT,CCT effluent channel,CCT outfall structure, disinfection system are asked to Design for 100% Peak Flows including recycle flows - Irrespective process</td><td>Design of all these units shall be for decant flow for SBR.Please confirm</td><td>Tender condition Prevails.</td></tr>
<tr><td>235</td><td>Vol. I, Pg. 15 of 236</td><td>Construction Experience- Reuse Plant (with Tertiary Level)……. The Reuse Plant (with Tertiary Treatment) have to meet following criteria for the treated effluent
<table><tr><th>Parameter</th><th>Unit</th><th>Specified Maximum Concentration</th></tr><tr><td>Turbidity</td><td>NTU</td><td>< 2.0</td></tr><tr><td>TDS</td><td>mg/L</td><td>< 1000</td></tr><tr><td>TN</td><td>mg/L</td><td>< 5.0</td></tr><tr><td>BOD</td><td>mg/L</td><td>< 5.0</td></tr><tr><td>COD</td><td>mg/L</td><td>< 30.0</td></tr><tr><td>TP</td><td>mg/L</td><td>< 1.0</td></tr><tr><td>Fecal Coliform</td><td>MPN/100 ml</td><td>Nil</td></tr></table></td><td>It is to highlight that Tertiary Treatment of the Wastewater / Sewage effluent has not been designed to treat the TDS and hence, the same will not be checked for WWTP/STP. Hence, please delete the requirement of the TDS from the list of parameters.Further, the Total Nitrogen (TN) of the treated effluent will never be reduced up to 5 mg/L and we presume that the same is a typographical mistake. The corrected value must be Total Nitrogen (TN) < 10 mg/L and NH4N < 5 mg/L.Furthermore, if the treated effluent has the BOD and COD contents, then the Fecal Coliform will never be Nil. Hence, need to revise.In view of the above, it is requested to modify the said table as follows:
<table><tr><th>Parameter</th><th>Unit</th><th>Specified Maximum Concentration</th></tr><tr><td>Turbidity</td><td>NTU</td><td>< 2.0</td></tr><tr><td>TDS</td><td>mg/L</td><td>Not Applicable</td></tr><tr><td>TN</td><td>mg/L</td><td>< 10.0</td></tr><tr><td>BOD</td><td>mg/L</td><td>< 5.0</td></tr><tr><td>COD</td><td>mg/L</td><td>< 30.0</td></tr><tr><td>TP</td><td>mg/L</td><td>< 1.0</td></tr><tr><td>Fecal Coliform</td><td>MPN/100 ml</td><td>230</td></tr></table></td><td>Refer Addendum-1</td></tr>
<tr><td>236</td><td>Vol. I, Pg. 19 of 236</td><td>Equipment Capabilities Availability by owning at least 50% of the required specified Key and Critical equipment for the above work. The remaining 50% can be deployed on lease/hire basis for all works provided the relevant documents (Commitment, Agreement etc..) for the availability of the work are furnished.</td><td>To have better competition, it is requested to allow the bidder to have a hiring agreement for 100% of the equipment listed in the table. Please confirm.</td><td>Tender condition Prevails.</td></tr>
<tr><td>237</td><td>Vol. II Sectiton 7</td><td>In table of 1.7 TREATED EFFLUENT QUALITY REQUIREMENTS FOR REUSE – Mentioned that Oil & Grease should be nil</td><td>Please Confirm Oil & Grease at the inlet.</td><td>The design influent parameters requirement shall be as defined Part 5, Cl.no. 5.20.1, "TSPS & WwTPs Design / Sizing Criteria".
Additionally, The tenderers are requested to make individual site visits for any other additional details and design accordingly.</td></tr>
</table>

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
238	Vol. II Sectiton 7	Pumping main to WwTP Works downstream of Line XX shall be included in Works – A, whereas Works upstream of Line XX shall be included in Works – B. For clarity Works in Works – A therefore includes a short length of sewer, which is outside the boundary of the Site for Works – A, as described in the above paragraph.	It is understood that the scope of work A terminates 2 meters from the boundary line, from which point the scope of work B commences. Please Confirm.	The requirement shall be as defined in the tender document.
239	Vol. II Sectiton 7	While selecting any type of pump and blower, priority shall be given to higher pump/blower efficiency and lower power consumption and shall ensure that pump/blower can operate at high efficiency throughout its service life. At minimum contractor shall ensure efficiencies of pump/blower as listed below: •Minimum efficiency of Submersible Pumps for ISPS and TSPS shall be 70% •Minimum efficiency of Axial Tubular Pump (MLR) shall be 70% •Minimum efficiency of Rotary Tri-Lobe blower shall be 70% •Minimum efficiency of Centrifugal Turbo blower shall be 90%	Please note that in Pumps & Blowers, efficiency is governed by the duty points themselves. Hence, it is requested to accept the pump & blower efficiency as proposed by the manufacturer in line with the desired duty points.	Refer Addendum-1
240	Vol. II Sectiton 7	Tanker Filling StationFor direct filling of these tankers, rising main of the treated water transfer pumps shall be terminated outside the boundary at suitable height and location as directed by Engineer.	Please confirm location & point of termination.	The requirement shall be as defined in the tender document.
241	Vol. II Sectiton 7	Design of WWTP (Primary, secondary & reuse system)	We understand that the selection of the treatment process (MBBR, EASP, SBR), along with the sizing of process tanks and volume, design parameters (F/M, SRT, MLSS) shall be in accordance with the bidder's design philosophy in compliance with the CPHEEO Manual. Please Confirm	Tender Conditions Prevail
242	Vol. II Sectiton 7	Minimum UF (Reuse Facility) Recovery : 95%	Recovery will depend on membrane selection. Please confirm	Refer Addendum-1
243	Vol. II Sectiton 7	Minimum poly dosing rate = 5 kg/T	Minimum Poly dosage rate shall be 1.5-2.0 kg/T as per the CPHEEO manual. Kindly confirm	Tender Conditions Prevail
244	Vol. II Sectiton 7	APPROVED VENDOR LIST –FOR MECHANICAL EQUIPMENT Vendor List: Inclusion of Make	The bidder has to operate & maintain the facilities for 10 years; it is requested to let the bidder select the make of equipment, considering its continuous performance for a longer period. This will help in selecting and providing reliable equipment that requires less maintenance during the O&M period.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
245		Buildings constructed under contract	As the O&M period is 10 years, the buildings such as administrative buildings, workshop, etc. constructed under contract will be allowed for use of the contractor during the O&M period without any extra cost. Please confirm.	Not Allowed. Tender Conditions Prevail
246		Site office / Contractors' office provided during execution of contract	As the O&M period is 10 years, we request the site office, contractor's office, staff quarters, temporary sheds, etc. provided during construction will be used by the bidder during the O&M period without demolishing the same. Please confirm.	Not Allowed. Tender Conditions Prevail
247		Date of Submission	Looking to the volume of work involved in tender preparation, we request to extend the date of submission at least by 3-4 weeks after receipt of the reply to Prebid queries.	Tender Conditions Prevail
248	Volume-2 /Section-7, Part 5 -31	**Influent Wastewater Characteristics** pH — 6.5-7.5 BOD — mg/L — 350 COD — mg/L — 800 TSS — mg/L — 450 VSS — mg/L — 360 TKN — mg/L — 70 NH4-N — mg/L — 45 Total Phosphorus — mg/L — 7	As per the clause referenced in the tender document, the BOD value of 350 mg/L corresponds to a COD of 800 mg/L, which indicates a relatively high COD/BOD ratio. Typically, as per CPHEEO guidelines, a BOD of 250 mg/L with a COD of 425 mg/L is considered standard.We assume that the sewage does not contain any industrial effluent and that the COD is primarily biodegradable.Please confirm	The design influent parameters requirement shall be as defined Part 5, Cl.no. 5.20.1, "TSPS & WwTPs Design / Sizing Criteria".

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
249	Volume-2 / Section-7, Part 5 - 31	**Influent Wastewater Characteristics** COD mg/L 800	We presume that there is no ingress of industrial effluent in the sewage, and that more than 95% of the COD is biodegradable, with less than 5% being non-biodegradable.Alternatively, the treated effluent COD performance requirements may be considered for relaxation, provided the Contractor can demonstrate that a portion of the influent COD is non-biodegradable and cannot be removed using the existing treatment processes at the Works.Please confirm.	Bidder may consider Non-biodegradable COD as per the bidder design.
250	Volume-1 / Page 15 of 236	Construction Experience- PipelineThe tenderer must have experience in the role of Prime Contractor (Single entity or JV member)/Management Contractor for procurement and construction of pipeline (DWC/RCC/DI) with a minimum diameter of 200 mm & above in any one year during the last 5 years as on date of bid submission involving minimum length of 15 Km	We would like to bring to your attention that only a limited number of bidders are currently able to qualify under the existing criteria. The specific requirements, particularly regarding the construction experience, are preventing several competent bidders from meeting the overall qualification standards.In light of this, we respectfully request that you consider permitting bidders to submit a Memorandum of Understanding (MoU) with aspecialist subcontractor who meets the required qualifications. We believe this approach would promote fair competition and enable capable teams to participate more effectively.Please confirm.	Not Acceptable. Tender Conditions Prevails.
251	Volume-1 / Page 15 of 236	(vi) Construction Experience Trenchless WorksThe Tenderer must have experience in the role of Prime Contractor (Single entity or JV member)/Management Contractor for executing trenchless work 600mm dia. and above MS casing pipe of minimum 100 meters in any one year during the last 5 year as on date of bid submission.	We would like to bring to your attention that only a limited number of bidders are currently able to qualify under the existing criteria. The specific requirements, particularly regarding the construction experience, are preventing several competent bidders from meeting the overall qualification standards.In light of this, we respectfully request that you consider permitting bidders to submit a Memorandum of Understanding (MoU) with a specialist subcontractor who meets the required qualifications. We believe this approach would promote fair competition and enable capable teams to participate more effectively. Please confirm.	Not Acceptable. Tender Conditions Prevails.
252	Volume-1 / Page 14 of 236	Technology provider shall provide the evidence that he has successfully supplied the technology for at least 1 (One) WWTP same as 3.1.2 (b)(i) 3.1.2. (b) (i) Experience in Execution of WwTPs The tenderer as a sole entity or a Lead Partner and or Partner in a Joint Venture shall have successfully completed, including Design, Procurement, Supply, Installation, Construction, Testing, and Commissioning of all Civil, Mechanical, Electrical, and Instrumentation Works of minimum One (1) No. WwTP of 16 MLD capacity and above or Two (2) Nos. of Waste Water Treatment Plants of minimum 8 MLD capacity with Biological Nutrient Removal (BNR) technology of process like , A2O, EA, IFAS, MBBR, SBR, with SCADA Integration, to meet effluent standard as BOD ≤ 10 mg/L, COD ≤ 50 mg/L, TSS ≤ 10 mg/L, TN ≤ 10 mg/L, TP ≤ 1 mg/L and fecal MPN/100 ml and should be in operation for a period of one year during the last 5 years as on date of Bid submission.	As per the Tender document, the Technology Provider is required to demonstrate that they have successfully supplied the specified technology for at least one Wastewater Treatment Plant (WWTP),as outlined in clause 3.1.2 (b)(i).We understand that this clause refers to the effluent quality at the final discharge point of the Sewage Treatment Plant (STP), rather than immediately following the secondary treatment stage. Accordingly, to demonstrate compliance, the Technology Provider for the secondary treatment system must ensure that the final treated effluent meets the following parameters, as specified— excluding fecal coliform:• BOD ≤ 10 mg/L• COD ≤ 50 mg/L• TSS ≤ 10 mg/L• Total Nitrogen (TN) ≤ 10 mg/L• Total Phosphorus (TP) ≤ 1 mg/LPlease confirm.	Refer Addendum-1
253	Volume-1 / Page 14 of 236	Technology provider shall provide the evidence that he has successfully supplied the technology for at least 1 (One) WWTP same as 3.1.2 (b)(i)	As per the Tender document, the Technology Provider must submit evidence of having successfully supplied the technology for at least one (1) wastewater treatment plant (WWTP), in accordance with Clause 3.1.2(b)(i).We observe that the clause does not clearly specify the required capacity of the reference WWTP. However, it is our understanding that the Technology Provider is expected to demonstrate experience in supplying the technology for at least one (1) WWTP of 4 MLD capacity, as per the intent of Clause 3.1.2(b)(i).Please confirm.	Refer Addendum-1
254	Volume-2 / Section-7, Part 5 - 51	N-1 condition: - The Bidder shall provide calculations for operating the WwTP at Design Flow with 1 SBR tank offline for maintenance.	In the earlier BWSSB tender—specifically the CP25 package and the 10 MLD STP at Jakkur, which adopted SBR technology—this particular clause was omitted. We presume that a similar approach will be adopted for the current tender as well.Please confirm.	Tender Conditions Prevails

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
255	Volume-2 / Section-7, Part 5 - 51	HRT at average flow: 24 Hrs.	Hydraulic Retention Time (HRT) is a derived parameter based on the selected SBR cycle time and the inlet sewage characteristics. We understand that the HRT should be determined in accordance with the process requirements and the Technology Provider's recommendations to meet the effluent quality standards specified in the tender. Please confirm.	Tender Conditions Prevails
256	Volume-2 / Section-7, Part 5 - 52	Maximum Decanter Weir loading rate: 120 m3/h/m	In the earlier BWSSB tenders for CP25, CP26, and CP27 packages based on SBR technology, the maximum decanter weir loading rate was specified as 125 $m^3/h/m$ (Addendum-8). We assume that this same rate will be applicable to the current tender as well. Please confirm.	Tender Conditions Prevails
257	Volume-2 / Section-7, Part 8 - 98	Decanters (For SBR system)	We assume that all decanter specifications will be acceptable based on the technology provider's standard specifications, as the bidder is required to submit the technology tie-up agreement in the technical bid.Please confirm.	Tenderer or Technology supplier can adopt with his own Patent concept of Decanter Equipment, but has to justify such thickness adopted for the steel member with suitable Structural Analysis Report for the fabricated Steel Structure of Decanter Mechanism.
258	Volume-2 / Section-7, Part 8 - 98	Decanters (For SBR system)All the withdrawal SS 316L Pipes shall be of thickness not less thanSchedule 20S above 200 mm and Schedule below 200 mm shall be ofSchedule 40S, and all the pipes shall be of Seamless type only.	It is presumed that the decanter mechanism forms an integral part of the technology components. Additionally, the bidder is required to submit the Technology Tie-Up Agreement as part of the technical bid. Accordingly, the pipe schedule(s) mentioned under the decanter specifications shall not be applicable to the decanter system.Kindly confirm.	Tenderer or Technology supplier can adopt with his own Patent concept of Decanter Equipment, but has to justify such thickness adopted for the steel member with suitable Structural Analysis Report for the fabricated Steel Structure of Decanter Mechanism.
259	Volume-2 / Section-7, Part 5 - 53	8. Process Air Blowers α: Oxygen Transfer Correction Factor - 0.6 β: Salinity - Surface Tension Correction Factor - 0.95 F: Fouling Factor - 0.8	The factors provided in the tender document— Alpha, Beta, and the Fouling Factor—are dependent on the type of diffuser, material of construction (MoC), and self-cleaning capacity, which can vary within the range specified in the latest edition of Metcalf and Eddy. Therefore, we assume that these factors can be considered in accordance with the latest edition of Metcalf and Eddy for designing the aeration system.Please confirm.	Tender Conditions Prevails
260	Volume-2 / Section-7, Part 8 - 82 to Part 8-101	8.18 Aeration system with allied Equipments 8.18.1 Tubular Type Diffusers & 8.18.15.2 Diffuser system for IFAS 8.18.15.3 Type of Diffuser System 8.18.15.4 Diffuser Elements 8.18.15.5 Testing for Diffuser system 8.18.15.6 Air Piping to Diffusers	The Tender document specifies two different diffuser specifications as outlined in the referenced clause.We understand that the diffuser specifications provided in Clause 8.18.15.2 to 8.18.15.6 are applicable to the aeration system for all secondary treatment processes where diffused aeration is used.Please confirm.	Diffuser specification shall be as per Cl.no.8.18.1 only and Cl.no. 8.18.15.2 to 8.18.15.6 stands deleted Refer Addendum-1
261	Volume-2 / Section-7, Part 8 - 90	Si.no. | Description | Material of Construction f | Acoustic enclosure | Al-Zn coated steel, insulated with glass wool	Recently, various materials of construction (MOC) for acoustic enclosures for turbo air blowers have become available. We kindly request permission for the tenderer to provide an acoustic enclosure for the turbo blower based on the manufacturer's standard MOC. Please confirm.	Superior material than specified in the tender can be adopted with justification and without any cost implication to BWSSB.
262	Volume-2 / Section-7, Part 8 - 161	40 Disc Filtration System List of Approved Suppliers: Manufacturer for Disc Filter: M/s Hydro Tech M/s Xylem M/s Estragua M/s Jash Invent M/s Huber M/s Aqua Aerobics M/s Evoqua water Technologies	M/s Yucheon has been accepted as a disc filter supplier in several previous BWSSB tenders, including the STP packages of CP-25, 26, and 27, the 10 MLD STP at Jakkur, the 150 MLD Capacity STP Based on ASP with BNR System at V Valley, the 60 MLD Capacity STP with IFAS Process at Hebbal, the 5 MLD STP at Chikkabanavara, the 40 MLD STP at Rajacanal (Phase II), and the 60 MLD Capacity STP with IFAS Process at Horamavu.Therefore, we assume that the tenderer can propose M/s. Yucheon Fiber Disc Filter for this tender.Please confirm.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
263	Volume-2 / Section-7, Part 5 - 56	DISC FILTERDesign flow per unit: Designed for 100% Peak Flows including recycle flows - Irrespective process	We understand that the design flow for the disc filter unit should be based on the maximum incoming flow to the unit. In the case of the SBR system, the FDF unit should be designed based on the average flow or the decant flow, whichever is higher.Please confirm.	Tender Conditions Prevails.
264	Volume-2 / Section-7, Part 1 - 9Volume-2 / Section-7, Part 5-31	<table><tr><th>Parameters</th><th>Unit</th><th>Value</th></tr><tr><td colspan="3">TREATED EFFLUENT QUALITY REQUIREMENTS - DISCHARGE</td></tr><tr><td>pH - Instantaneous range</td><td>-</td><td>6.5-8.0</td></tr><tr><td>BOD_5 at 20°C - Maximum monthly average</td><td>mg/L</td><td>10</td></tr><tr><td>COD - Maximum monthly average</td><td>mg/L</td><td>50</td></tr><tr><td>TSS - Maximum monthly average</td><td>mg/L</td><td>10</td></tr><tr><td>TN - Maximum monthly average</td><td>mg/L</td><td>10</td></tr><tr><td>Total Phosphorus - Maximum monthly average</td><td>mg/L</td><td>1</td></tr><tr><td>Residual Chlorine - Instantaneous</td><td>mg/L</td><td>1</td></tr><tr><td>Fecal Coliform – Maximum Monthly average</td><td>MPN/100 mL</td><td>100</td></tr><tr><td>Fecal Coliform – Ceiling Limit (in any day)</td><td>MPN/100 mL</td><td>230</td></tr></table>	As per the tender document, the treated effluent quality parameters such as BOD, COD, TSS, TN, and TP are expected to be achieved at the outlet of the biological treatment process (e.g., SBR). Therefore, a Disc Filter is not required solely to meet these parameters. Accordingly, we understand that the provision of a Disc Filter shall be based on the process requirement.Kindly confirm.	Tender Conditions Prevails.
265	Volume-2 / Section-7, Part 8 - 136	Disc Filter	The specifications provided for Disc Filters appear to be specific to a particular vendor and are aligned with the offerings of only one or two vendors listed in the approved vendor list. Accordingly, we understand that the Disc Filter specifications shall be deemed acceptable as per the approved vendor's standard design. Kindly confirm.	If Vendor satisfies the tender specification & Vendor Qualification criteria specified in the Tender, tenderer can always submit as a alternate vendor.
266	Volume-2 / Section-7, Part 8 - 138	Filter Membrane: Stainless steel screen / Mesh: SS-316L	In previous BWSSB tenders, including the 150 MLD Capacity STP Based on ASP with BNR System at V Valley, the 60 MLD Capacity STP with IFAS Process at Hebbal, the 5 MLD Capacity STP at Chikkabanavara, the 40 MLD Capacity STP at Rajacanal (Phase II), and the 60 MLD Capacity STP with IFAS Process at Horamavu, polyester membranes with a 10-micron pore size have been allowed.Hence, we assume that the tenderer can also provide filter membranes made from polyester cloth or SS316 material for this tender.Please confirm.	Tender Conditions Prevails.
267	Volume-2 / Section-7, Part 8 – 137	….. the automatic valve and suction cleaning pump which shall be	Nowadays, all vendors are supplying fiber disc filters with submersible centrifugal pumps for disc backwash, which do not require automatic valves at the discharge end. This type of arrangement has been accepted and supplied in several BWSSB tenders, such as the 150 MLD Capacity STP Based on ASP with BNR System at V Valley, the 60 MLD Capacity STP with IFAS Process at Hebbal, the 5 MLD Capacity STP at Chikkabanavara, the40 MLD Capacity STP at Rajacanal (Phase II), and the 60 MLD Capacity STP with IFAS Process at Horamavu, among others.Therefore, we understand that this arrangement should also be acceptable for the current tender.	For automatic Backwash operation this valve is suggested in fully submerged Disc filters, tenderer can follow alternative arrangement as per vendor recommendation, considering auto operation system of Backwashing based on clogging alarm.
268	Volume-2 / Section-7, Part 8 - 138	Protective Top Cover and Body cover along with frame structure : SS316 (Minimum 4mm for Body cover)	As per the tender document, we are proposing a fully submerged fiber disc filter. This type of filter does not require any covering, shed, or RCC roof. Therefore, we assume that a fully submerged fiber disc filter without a cover will be acceptable. Please confirm.	In cl.no. 8.26, Table "Technical Particulars Common for both Partially Submerged or Fully Submerged type Disc Filtration System", Tenderer can consider the specification, based on his design adopted either of two system. RCC structure as defined in the tender document is mandatory for both the system.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
269	Volume-2 / Section-7, Part 5 - 31	DISC Filter building	As per the tender document, we are proposing a fully submerged fiber disc filter. This type of filter does not require any covering, shed, or RCC roof. Therefore, we assume that a fully submerged fiber disc filter without a roof will be acceptable. Kindly confirm.	Tender Conditions Prevails.
270	Volume 2, Page no. TECHNICAL SCHEDULE X-2	a) Energy Consumption for TSPS, WwTP without ReusePCA =[{PCD}*{(0.42*QA/QD)+(0.24*BA/BD)+(0.24*TA/TD)+(0.1*NA/ND)}]	The specified formula for energy consumption is not applicable in the case of the Terminal Sewage Pumping Station (TSPS), as energy usage in this context is based on the volume of sewage pumped rather than on pollutant load parameters such as BOD, TSS, or TKN. Accordingly, we understand that the formula provided for calculating energy consumption for the Intermediate Sewage Pumping Station (ISPS) should also apply to the TSPS.Please confirm.	Tender Conditions Prevails.
271	Volume-2 / Section-7, Part 5 - 55	ALUM DOSING SYSTEM (FOR ALL TREATMENT PROCESSES)	As stated in the tender, an alum dosing system is required for chemical phosphorus removal. However, we assume that if the Total Phosphorus ≤ 1 mg/L, as specified in the tender, is achieved biologically through the Biological Nutrient Removal process, then the alum dosing system will not be necessary. Therefore, the alum dosing system should be considered optional and provided only if required, based on the process requirements to achieve Total Phosphorus ≤ 1 mg/L. Please confirm.	Tender Conditions Prevails.
272	Volume-2 / Section-7, Part 3-13 & 3-14	3.16.4 Bid Drawings and Details (a) General and Process. (b) Mechanical (c) Electrical & Instrumentation	The tender specifies a large number of documents for submission. It is not feasible to submit all these documents at the bidding stage. We understand that the submittals under the categories a) General and Process shall be provided during the bidding stage, while all other documents will be submitted after the award of the contract. Please confirm.	The Tenderer shall submit all the document specified under the clause 3.16.4 Bid Drawings and Details for (a) General and Process, (b) Mechanical, (c) Electrical & Instrumentation. However, the "To-scale dimensional layout and/or installation drawings" as specified under the clause 3.16.4 (b) Mechanical (i) can be omitted during the bidding stage. However, Tenderer shall provide a undertaking for non-submission.
273	Volume-2 / Section-7, Part 5 - 40/44/49	SECONDARY CLARIFIERS (EA PROCESS) SECONDARY CLARIFIERS (IFAS PROCESS) SECONDARY CLARIFIERS (MBBR PROCESS)	The tender states that the bidder must provide calculations for operating the WWTP at design flows with one tank/unit/module offline for maintenance. We assume that this requirement also applies to secondary clarifiers.Please confirm.	Tender Conditions Prevails.
274	Volume-2 / Section-7, Part 7 - 54	PLC shall be provided as a Hot Stand-by Controller	We understand that a redundant PLC system has been specified to prevent extended interruptions in plant operations and control. Alternatively, the same level of reliability can be ensured by using a standard non-redundant PLC system, supported by pre-programmed spare components such as CPU, power supply, etc. In the unlikely event of a PLC failure, the system can be restored within 1–2 hours using these spares. Please confirm whether a non-redundant PLC with essential pre-programmed spares is acceptable.	Not Acceptable.The Plant master controller station shall be provided with two identical central processors configured such that they operate in Hot-Standby mode.The system shall be designed and implemented such that when the Main processor fails, the Standby one shall automatically take over. The changeover shall be seamless, smooth and without any time delay and this Hot-Standby feature is to be proposed for WwTP SCADA control room as per Clause No.13.27, Part-13, Volume-2 of the Tender Document. Hence, the Tender Condition Prevails.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
275	Volume 2/Section 7, Part 7-54 & part 7-56	7.13.1Redundant SCADADual redundant SCADA system and Historian softwareOperator work Station, loaded with Runtime SCADA ServerSCADA Operator work station with licensed SCADA softwareSCADA Engineering work station with licensed SCADA software	The operators available at the STP are generally not trained to carry out programming or modifications in the SCADA system, and allowing them to do so may pose operational risks. SCADA modifications require expert programmers who possess the necessary licenses and skills. Therefore, we kindly request that only runtime software for SCADA be considered. Please confirm.	Not Acceptable. The PLC cum SCADA softwares capable of modification on Control System Logic updation cum SCADA Screen Graphics during run time without any impact on WwTP Process. The Control Logic & SCADA Graphics screens tested & witnessed during Factory Acceptance Test (FAT) at authorized Original Equipment Manufacturer's (as per approved OEMs list in Part-13) workshop and PLC Logics cum SCADA Graphics Screens in line with approved Plant Operational control philosophy prior to dispatch to site as per Clause No. 14.19.B, Part-14 of tender document. Hence, the critical logic updations are not allowed at site only minor modifications shall be updated through authorized licensed programmer of original equipment manufacturer's for which necessary training provided by authorized licensed programmer to the O&M team as per Clause no.15.1.6, Part-15 in tender document. The SCADA shall be a fully dual redundant microprocessor based computer system such that reliable and fully automatic plant control can be achieved by using Hot-Standby PLC system. The SCADA software functions are to be complied as per clause nos.13.27,13.34 & 13.35, Part-13 in Volume-2 of the tender document. Hence, the Tender Conditions Prevails.
276	Volume-2 / Section-7, Part 7 - 56	Historian Software	As alarms and trends are already stored within the computer-based SCADA system, which includes an inbuilt SQL server, a separate historian system is not necessary. Therefore, we request you to consider a PLC and SCADA system without the requirement for a separate historian. Please confirm.	Not Acceptable. In addition with Redundant SCADA system,the Historian software system shall be designed and configured to store data for a minimum of seven years data retrieval as per Clause No.7.13.4, Part-7 in Volume-2 of the tender document. Hence, the Tender Conditions Prevails.
277	SECTION 2, INSTRUCTIONSTO TENDERERS (ITT) Page 15 of 236	3.1.2. (b)(ii)Construction Experience- Reuse Plant (with Tertiary Level)---	The proposed tertiary treatment technology is the ultrafiltration (UF) process. Given that the UF system is a critical component of the TTP and that the overall system guarantee is closely tied tomembrane design and technology, it should be mandatory for the bidder to enter into a tie-up with a qualified membrane supplier.Accordingly, we propose the following qualification requirement:"The bidder must establish a tie-up with the ultrafiltrationmembrane supplier or its authorized distributor and submit a Technology Tie-up Agreement as part of the technical bid. Themembrane supplier or its authorized distributor must have experience in supplying the proposed ultrafiltration system for at least one (1) tertiary treatment plant of minimum 10 MLD capacity (net output) in India for any State/Central Government organization or ULB, which has been operational and performing satisfactorily for a minimum of two years as of the tender calling date. A performance certificate from the end user, certified by an officer not below the rank of Executive Engineer, must be submitted."Please confirm.	Not Acceptable. Tender Conditions Prevails.
278	SECTION 2, INSTRUCTIONSTO TENDERERS (ITT) Page 15 of 236	3.1.2. (b)(ii)Construction Experience- Reuse Plant (with Tertiary Level)The Reuse Plant (with Tertiary Treatment) have to meet following criteria for the treated effluent Parameter | Unit | Specified Maximum Concentration Turbidity | NTU | ≤ 2 TDS | mg/l | ≤ 1000 TN | mg/l | ≤ 5 BOD | mg/l | ≤ 5 COD | mg/l | ≤ 30 TP | mg/l | ≤ 1 Fecal Coliform | mg/l | NIL	The proposed technology for tertiary treatment is ultrafiltration. As per the tender, bidders are required to have experience in reuse plants with a Total Nitrogen (TN) guarantee of < 5 mg/L. However, in reuse plants using treated sewage, a TN guarantee of < 5 mg/L cannot be ensured after the ultrafiltration process. This is because total nitrogen removal in ultrafiltration systems is incidental to the removal of suspended solids. Therefore, we kindly request that the TN guarantee requirement at the outlet of the tertiary treatment plant be adjusted to < 10 mg/L or as arising from the experience criteria.Please confirm.	Refer Addendum-1

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<table>
<tr><th>Sr. No.</th><th>Vol.No. / Pg. No.</th><th>Description</th><th>Query</th><th>Reply</th></tr>
<tr><td>279</td><td>SECTION 2, INSTRUCTIONSTO TENDERERS (ITT) Page 15 of 236</td><td>3.1.2. (b)(ii)Construction Experience- Reuse Plant (with Tertiary Level)The Reuse Plant (with Tertiary Treatment) have to meet following criteria for the treated effluent
<table><tr><th>Parameter</th><th>Unit</th><th>Specified Maximum Concentration</th></tr><tr><td>Turbidity</td><td>NTU</td><td>≤ 2</td></tr><tr><td>TDS</td><td>mg/l</td><td>≤ 1000</td></tr><tr><td>TN</td><td>mg/l</td><td>≤ 5</td></tr><tr><td>BOD</td><td>mg/l</td><td>≤ 5</td></tr><tr><td>COD</td><td>mg/l</td><td>≤ 30</td></tr><tr><td>TP</td><td>mg/l</td><td>≤ 1</td></tr><tr><td>Fecal Coliform</td><td>mg/l</td><td>NIL</td></tr></table></td><td>As per the tender, bidders are required to have experience with reuse plants that meet a Total Dissolved Solids (TDS) guarantee of < 1000 mg/L. However, TDS removal is typically achieved in reuse plants with Reverse Osmosis (RO) systems. Since the technology proposed for tertiary treatment in this tender is ultrafiltration, which does not remove TDS, we kindly request the deletion of the TDS experience criteria or that the TDS values be considered as “As Arising.”Please Confirm..</td><td>Refer Addendum-1</td></tr>
<tr><td>280</td><td>TSPS & WwTPs Design / Sizing CriteriaPart 5-32 & Part 5-59</td><td>TREATED EFFLUENT QUALITY REQUIREMENTS FOR REUSE (APPLICABLE AS SPECIFIED)
<table><tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Channasandra</th></tr><tr><td>TN</td><td>mg/l</td><td>≤ 5</td></tr></table>&
Reuse Facilities:
<table><tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Channasandra</th></tr><tr><td>Membrane Pore Size</td><td>-</td><td>0.01 – 0.03 microns to remove suspended solids, bacteria and viruses</td></tr></table></td><td>As per the tender, the proposed technology for tertiary treatment is the ultrafiltration process. Ultrafiltration membranes are designed to remove suspended solids, bacteria, and viruses, as outlined in referred Part of the tender. Therefore, nitrogen removal in ultrafiltration systems is incidental to the removal of suspended solids and cannot be guaranteed.In light of this, we kindly request that the Total Nitrogen removal guarantee at the outlet of the tertiary treatment plant after ultrafiltration be set to < 10 mg/L or considered as "As Arising."Please Confirm..</td><td>The design effluent quality requirement for Reuse shall be as defined in the tender document.</td></tr>
<tr><td>281</td><td>TSPS & WwTPs Design / Sizing Criteria Part 5-32& Part 5-59</td><td>TREATED EFFLUENT QUALITY REQUIREMENTS FOR REUSE (APPLICABLE AS SPECIFIED)
<table><tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Channasandra</th></tr><tr><td>TDS</td><td>mg/l</td><td>≤ 1000</td></tr></table>&
Reuse Facilities:
<table><tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Channasandra</th></tr><tr><td>Membrane Pore Size</td><td>-</td><td>0.01 – 0.03 microns to remove suspended solids, bacteria and viruses</td></tr></table></td><td>As per the tender, the proposed technology for tertiary treatment is the ultrafiltration process. Ultrafiltration membranes are designed to remove suspended solids, bacteria, and viruses, as outlined in mentioned clause. Therefore, the incoming TDS will pass unobstructed through the ultrafiltration membrane. A TDS outlet of < 1000 mg/L can only be guaranteed if the incoming TDS to theultrafiltration unit is less than 1000 mg/L.In light of this, we kindly request that the TDS guarantee be deleted or that the TDS guarantee at the outlet of the tertiary treatment plant be considered as "As Arising."Please Confirm..</td><td>Tender Conditions Prevails.
TDS at outlet of <1000 mg/L can be guaranteed as long as the influent sewage TDS is < 1000 mg/L.</td></tr>
<tr><td>282</td><td>TSPS & WwTPs Design / Sizing Criteria Part 5-58</td><td>Reuse Facilities:
<table><tr><th>Item/Parameter/Description</th><th>Units</th><th>WwTP at Channasandra</th></tr><tr><td>Reuse Flow</td><td>MLD</td><td>10</td></tr></table></td><td>We assume that the "Reuse Flow" refers to the flow at the outlet of the Ultrafiltration Plant (Permeate Flow).Please confirm.</td><td>Refer Addendum-1</td></tr>
</table>

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
283	TSPS & WwTPs Design / Sizing Criteria Part 5-58	Reuse Facilities: Item/Parameter/Description: No of Membrane Trains; Units: Nos; WwTP at Channasandra: 5	The term "trains" is typically used for pressurized ultrafiltration systems and does not apply to submerged ultrafiltration systems, where the membrane modules are immersed in tanks or cells. Therefore, we assume that in the specified clause, the term "trains" refers to "cells or tanks" for submerged ultrafiltration systems. Additionally, the number of cells or tanks will be as per the recommendation of the UF vendor.Please confirm.	Tender Conditions Prevails.
284	TSPS & WwTPs Design / Sizing Criteria Part 5-58	Reuse Facilities: Item/Parameter/Description: No of Feed Pump/Permeate Pump (Working); Units: Nos; WwTP at Channasandra: 4 Item/Parameter/Description: Capacity of each feed pump / permeate pump; Units: m^3/hr; WwTP at Channasandra: 125	The tender specifies the number of working feed pumps/permeate pumps as 4 for the Channasandra site. However, the actual number of working pumps may vary based on the UF vendor's designand the type of UF system (submerged/pressurized). Therefore, we request that the number and capacity of feed pumps/permeate pumps be allowed to follow the UF vendor's recommendation.Please confirm.	Tender Conditions Prevails.
285	TSPS & WwTPs Design / Sizing Criteria Part 5-59	Item/Parameter/Description: Minimum UF Plant Recovery; Units: %; WwTP at Channasandra: 95	The maximum recovery achievable through UF systems is approximately 93-94%. Any additional recovery is possible only through the installation of extra UF backwash recovery systems that treat UF backwash waste and make it available for reuse.Since surplus flow is available at the inlet of the UF plant, we request that a minimum recovery of 93% be allowed for the UF plants.Please confirm.	Refer Addendum-1
286	TSPS & WwTPs Design / Sizing Criteria Part 5-59	Reuse Facilities: Item/Parameter/Description: Membrane Pore Size; Units: -; WwTP at Channasandra: 0.01 – 0.03 microns to remove suspended solids, bacteria and viruses	Ultrafiltration membranes typically have a porosity range between 0.01 and 0.07 microns, with 0.04 microns being the most commonly adopted nominal size in the industry.Therefore, we request that a nominal pore size of 0.04 microns for the UF membrane be allowed.Please confirm.	Refer Addendum-1
287	TSPS & WwTPsDesign / Sizing CriteriaPart 5-59 & 8.18.16 UltraFiltration System (Submerged/ Pressurized), Part 8-111	Reuse Facilities: Item/Parameter/Description: Membrane Material (MOC); Units: -; WwTP at Channasandra: Poly-Vinyli-Dene-Fluoride (PVDF) reinforced with polyester or polypropylene backing layer. & **K. PVDF Membrane with Braided** The membrane fiber features a Braided PVDF membrane formulation cast on polyester support braid.	PVDF reinforced with polyester is not necessary for submerged ultrafiltration systems, which operate at lower pressures compared to pressurized UF systems.Therefore, we request permission to provide more advanced, 100% PVDF monolithic membranes for the submerged ultrafiltration system. These membranes offer the following advantages:a. Greater efficiency compared to braided PVDF membranes, as the PVDF layer tends to peel off during operation, reducing functionality.b. Longer membrane lifespan compared to braided PVDF. c. Higher reliability.d. Reduced chemical consumption compared to braided PVDF.Please confirm.	Refer Addendum-1
288	TSPS & WwTPs Design / Sizing Criteria Part 5-59	Reuse Facilities: Item/Parameter/Description: Membrane Type; Units: -; WwTP at Channasandra: Submerged (out-to-in) or Pressurized (outside-in or inside-out) hollow fiber membranes, designed to handle peak plant flow conditions.	The tender specifies that the ultrafiltration system should be designed to handle peak plant flow conditions. However, as per the tender, the required UF feed pumps will pump water to the ultrafiltration system to generate 10 MLD of permeate flow.Therefore, we assume that peak plant flow conditions are not applicable for the design of the ultrafiltration system.Please confirm.	Refer Addendum-1
289	TSPS & WwTPs Design / Sizing Criteria Part 5-59	Reuse Facilities: Item/Parameter/Description: Maximum Membrane Flux rate; Units: -; WwTP at Channasandra: 30 LMH	The maximum membrane flux specified in the tender, i.e., 30 LMH, is typically applicable for MBR systems that operate under high solids load (>5000 mg/L). For UF systems treating secondary treated wastewater, the solids load is usually below 20 mg/L. In such cases, a lower flux rate is unnecessary and could lead to a significant increase in capital costs without offering substantial benefits to the client.Therefore, we kindly request that the average membrane flux rate be allowed to be ≤ 40 LMH.Please Confirm..	Tender Conditions Prevails.

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Sr. No.	Vol.No. / Pg. No.	Description	Query	Reply
290	TSPS & WwTPs Design / Sizing Criteria Part 5-59	Reuse Facilities: Item/Parameter/Description | Units | WwTP at Channasandra UF Membrane design load factor (on BOD and TSS) | - | 2	Please confirm that the load factor for UF membrane design refers to the design safety concerning the inlet parameters to the UF system.Additionally, since UF membranes are designed to remove suspended solids, we understand that the design safety or load factor of two shall apply only to the inlet TSS values for the UF system.Please confirm.	Tender Conditions Prevails.
291	8.18.16 Ultra Filtration System (Submerged/ Pressurized) Part 8-107	D. Working Principle of Submerged UF Process:After mechanical pretreatment, the wastewater is fed to the membrane tanks where the water is separated from the solids by the SUF membranes. The liquid is typically fed below the submerged membrane modules.	We assume that the bidder is allowed to provide rotary drum screens as a mechanical pre-treatment for the submerged ultrafiltration process.Please confirm.	Tender Conditions Prevails. It is after Disc filtration system only.
292	8.18.16 Ultra Filtration System (Submerged/ Pressurized) Part 8-110	I. Single Header Design• The SUF product consists of bundles of hollow fiber membranes potted only at the lower end of each bundle. The non-potted ends of the fibers (at the top of the bundle) are individually sealed and move freely in the liquid.	The tender specifies that the submerged ultrafiltration system shall have a single header design. However, issues typically associated with double header designs, such as the presence of fibrous material and high MLSS, are not relevant in treated sewage. Double header designs are generally more efficient, providing uniform withdrawal of water from the modules. Therefore, we request approval for the bidder to offer the submerged ultrafiltration header design based on the UF manufacturer's recommendation/design.Please confirm.	Refer Addendum-1.
293	8.18.16 Ultra Filtration System (Submerged/Pressurized) Part 8-113	Technical Particular | Parameters Spare Space for module per train | | 10 %	We understand that for the submerged UF system, the term "train" shall be interpreted as "cell/tank," and a 10% spare space for modules shall be provided per "cell/tank."Please confirm.	Refer Addendum-1.
294	8.18.16 Ultra Filtration System (Submerged/Pressurized) Part 8-113	Technical Particular | Parameters Minimum Operating Life of Membrane | Years | 10	The minimum operating life of membranes varies depending on several factors, including the type of system and vendor, and typically ranges from 5 years for pressurized ultrafiltration systems to 7 years for submerged ultrafiltration systems.Therefore, we request you to allow the bidder to propose a minimum operating life of membranes as 7 years.Please confirm.	Tender Condition Prevails.
295		Biomedia-Virginmedia-Extuded	Agreed	Tender Conditions Prevails.
296		Media shape- Cylindrical with internal fins	Agreed	Tender Conditions Prevails.
297		Media Life-(Min) 20 years	Agreed	Tender Conditions Prevails.
298		Solid Loading Rate-Max 45 g/m2	Request to amend for Max 25g/m2	Tender Conditions Prevails.
299		Maximum effective surface Area500m2/m3	Agreed. However request to consider higher surface area like 600-650 also	Tender Conditions Prevails.
300		Tenderer must submit MOU with MBBR technology provider under this contract	Request to abolish the clause for MBBR technology	Tender Conditions Prevails.
301		Total HRT-18Hrs	It should be based on process design.	Tender Conditions Prevails.
302		Technology provider shall provide the evidence that he has successfully supplied the technology for atleast 52MLD-1 nos or 26MLD-2nos with MBBR technology and should be in successful operation for a period of one year as per section 3.1.2(b) (i) Experience in Execution of STPs.	Cooldeck as a leading manufacturer in India and prestigious supplier to major client like Triveni/ Ionexchange/ Therma x/ L&T/ RoChem/. We have more than 2000 reference for MBBR media supply to Municipal and other major industry. Presently we do not have reference for the successful operation for a period of one year. Request you to waive off the section 3.1.2 (b) (i) for technology provider to support the Make in India manufacturer.	Not Acceptable. Tender Conditions Prevails.

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<tr><td>303</td><td></td><td></td><td>Inclusion of Advnced Air Blower Technology
We request that Positive Displacement Rotary Helical Hybrid Air Blowers be considered in addition to the currently listed blower types (Twin Lobe/Tri Lobe/Turbo). This technology is highly efficient, sustainable, and particularlu suited to Indian operating environments. It is a proven, 100% make-in-India solution, designed to hadle variable flow and pressure conditions effieciently.</td><td>Not Acceptable. Tender Conditions Prevails.</td></tr>
<tr><td>304</td><td></td><td></td><td>Inclusion of free floating IFAS carriers with PU Foam and activated carbon
We propose the use of PU foam-based IFAS carriers impregnated with activated carbon for STP upgrdation. Below are technical specifications:
<table><tr><th>Items</th><th>Unit</th><th>Values</th></tr><tr><td>MOC</td><td></td><td>Poly Urethane Fom impregnated with activated carbon.</td></tr><tr><td>Medai Surface Area</td><td>M3/m²</td><td>More than 20000 m²/m³ (BET measurement)</td></tr><tr><td>Media filling ratio</td><td>%</td><td>12-15% of the total volume of IFAS reactor</td></tr><tr><td>Shape</td><td></td><td>Cuboid</td></tr><tr><td>Size</td><td></td><td>20x20x7mm</td></tr><tr><td>Media life</td><td></td><td>Minimum 10years</td></tr></table></td><td>Not Acceptable. Tender Conditions Prevails.</td></tr>
</table>

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